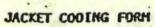
	SESIST		*****	0-04 440		
FPA	REGISTE	₹A I I()N	NUMBER	2724-446	-V()I	. 1



APPROVED FOR TECHNICALS SUPPORT
SECTION:
CHEN . EFFICACY

PRECU	ATIONA	URY LA	RELING

GISTRATION 1/FILE SYMBOL 2724-UUA BY:

Keidro /	ACTION	REVIEWER CODE	REF /	RESPONSE CODE	DATE	DATE TO .	COMP	UTER	APPLICAT. DATE
W	160		9.18				Pa	1	
			2 21	a duel			//		• 100
				7113	Talls a				• 500
		152	10 1	1. 1.	SEE		6	1	·
		7		19.				Section 1	2007
				(-n-14)	•	7. 0.0			
	9 1					7 7-	1	1	ARI- IN
1	•		199	- 500 Pig. 1	1		- 30	i i	***************************************
-/1	il)		77	2 6	155	1 1			
	The feet			1 5 1	Para and			100	
	y ayah	F W	5) 11	- Kin	上: NA	F. 1.52			
	•			1 - 1 - 1					
	TO ALT								
			1	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		6-14			
		13 1/4		3. 1		72			
			•						
		•		9	1/4 1 1				Mulgar
19.14	79					L APRIL			
	TAL		1.		3 0				0.1
				13					1132
		1.63	1		plate.		MI ST		
713 -01	ya a				- 1	Lating 8	20 00		
		A A					B. C.		
1		- 4	. 1	34	7 1 30	A SA		1	- T.

MEL & SANDOZ

FILE IN FACKET

NOT NOT REVIEWED

CORPORATE HEADQUARTERS

TEL. 708.699,1616

Document Processing Desk (NOTIF)
Office of Pesticide Programs - H7504C
U.S. Environmental Protection Agency
401 M Street SW
Washington D.C. 20460-0001

Attn: Mr. Phil Hutton (PM 18)

RE: Zoecon RF-437 Mosquito Growth Regulator

(EPA Reg. No. 2724-446)

Notification of Additional Brand Names

Dear Mr. Hutton:

This correspondence is to notify the Agency of the following additional brand names related to the above-referenced product:

- VET-KEM® Siphotrol® Biorational Yard Spray Concentrate
- ZODIAC® Step 3 Pet Protection Program Fleatrol® Yard Spray Concentrate.

Please contact me at (708) 390-3007 if you have any questions.

Yours Sincerely, SANDOZ AGRO, Inc.

Steven R. Spaulding
Sr. Regulatory Specialist

NOT REVIEWED

In Accordance with PR Notice 82-2 Based on Draft Labeling Dated

November 1, 95

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

2. Confidential Statement of Formula (EPA Form 8570-4);

3. Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling:

5. Three copies of any data submitted;

6. Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned
 to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

 Subject of submission - Check the applicable block and provide the Agency Letter date if appropriate. Provide a brief
explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

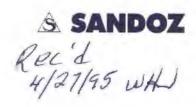
1. Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types.

Indicate the size of the individual packets and number per retail container.

- Type of Retail Container Indicate type of container in which product will be marketed.
 Location of Net Contents Specify the net contents of all retail containers for your product.
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affixed to product Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc. SIR STOWIGE 1-5. Self-explanatory.

6. EPA Use Only.



CORPORATE HEADQUARTERS

TEL. 708,699,1616

Document Processing Desk (NOTIF)
Office of Pesticides Programs - H7504C
U.S. Environmental Protection Agency
401 M Street SW
Washington D.C. 20460-0001

April 24, 1995

Attn: Mr. Willie Nelson

Biopesticides and Pollution Prevention Division

Subject: Zoecon RF-437 Mosquito Growth Regulator

(EPA Reg. No. 2724-446)

Notification to Clarify Mixing Directions & Change of Company

Name and Address.

Dear Mr. Nelson:

Attached is a notification to clarify mixing instructions on the RF-437 product intended only for outdoor treatment of fleas. The following changes have been highlighted on the enclosed label:

- 1. "Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf" has been changed to "Apply 0.75 ounces of RF-437 in 15 gallons of water to every 750 square feet of residential turf." The ratio between RF-437 and water and treated square feet is the same and the rate of application of the finished product to the ground is equivalent in both cases.
- 2. "When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure" has been changed to "When using a hose-end sprayer, place 0.75 ounces of RF-437 in bottle, add 6 ounces of water and apply at low pressure". This change more clearly defines the mixing directions.
- The Directions for Use have been numbered and the order has been changed in order to make this label easier to understand and use by the customers.

- 4. The name and address has been changed to reflect the merger of Zoecon and Sandoz.
- 5. The revised label consists of 3 pages which contains the same information that appears on the column-formatted EPA-stamped approved version which is enclosed for comparison. The font size has also been increased in order to make the revised label easier to read.

Please contact me at (708) 390-3007 if you have any questions.

Yours Sincerely, SANDOZ AGRO, Inc.

Steven R. Spaulding V Sr. Regulatory Specialist

cc: A. Breaux

Please read Instructions of	The second second second second second	COMPANY OF THE PARTY OF THE PAR			n Approved	. OMB No.	2070-0060). Approval expires 11-30-93
(A) SEP	Office	of Pesticide Pr Washington,	ntal Protection A rograms (H75050 DC 20460 for Pestici	C)	x	Amend Other	Iment	OPP Identifier Number
	A SECTION	Se	ection I	1178		E BOOK		(P) (300 10 10 10 70
1. Company/Product Number	r de				t Manager	10/2/12/18	3. P	roposed Classification
2724-446 4. Company/Product (Name	V Sec Libert	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PM#	HIL H	UTTON	6 15 4	X	None Restricted
ZOECON RF-437 MOS		DECIII AT	O.D.	18				
5. Name and Address of Ap			200	51600	d Review	In accord	lance with	FIFRA Section 3(c)(3)
SANDOZ AGRO, INC. 1300 E. TOUHY AVI DES PLAINES, IL 6	3.		(b)(i) to: EPA	Reg. No	duct is sir			omposition and labeling
Check if this i	is a new audress			uct Nam	10	The series		
12 12 12 12 12 12 12 12 12 12 12 12 12 1	THE FOLLOW	Sec	ction I I	100			The same of	In- I to a suite
Amendment - Explain b	elow	4			nted labels letter date	in response	to	
Resubmission in respon	nse to Agency letter	dated			* Application		W King	and the same
X Notification - Explain be	low.	*	1000		A		ME I	
		LINE O	CAPTED AN	Other -	explain bek	ow.	THE LA	POLICE INST
			ion III			A Second		T. Contract
Material This Product W Child-Resistant Packaging	Unit Packaging		Water Soluble	e Packan	ina	2. Type o	f Containe	
Yes*	Yes		Yes	c i acitag	ang .		Metal	an interest to
v	X No	Ser bi		2711		x	Plastic Glass	A THE PARTY OF
LA No	If "Yes,"	No. per	If "Yes,"		No. per		Paper	
* Certification must be submitted.	Unit Package wgt.	container	Package wgt		container	Cle Ta	Other (S	Specify)
3. Location of Net Contents	Information	4. Size(s) of	Retail Containe	r Land	- Unit of California	Location of L	And the second second	tions
The state of the s	ontainer	THE PROPERTY OF THE PARTY OF TH	55 gal	•		CONTROL PROPERTY.		panying product
6. Manner In Which Label Is	Affixed To Product		graph er glued ciled		Other (194 2 5) -1		
			ction IV	1000	1031		Artist 1	
Contact Point (Complete Name	nems airectly below	tor identification	Title	o pe conta	ictea, if ne	cessary, 10		is application.) le No. (Include Area Code
Steven R. Spaul	ding		Sr. Regis	tratio	n Spec	ialist	The second second second	390-3007
		Certificatio	on	CATAL TU		W. 100		6. Date Application
I certify that the statement I acknowledge that any kr both under applicable law	nowingly false or mis							Received (Stamped)
2. Signature	Was St. V.		3. Title	BRI		19.72		
SR Spaul	din		Sr. Regis	tratio	on Spec	ialist	4	THE PERSON
4. Typed Name	COLUMN TO	5 (2) AV	5. Date	15/5/3	T SE	Print !	143	
Steven R. Spaul	ding		May	12, 19	995			
PA Form 8570-1 (Rev. 12-9	90) Previous edi	tions are obs	olete	White -	FPA File	Copy (orig	inal)	Yellow - Applicant copy

[] optional wording

ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

Prevents emergence of adult floodwater mosquitoes

Prevents emergence of adult fleas up to 8 weeks outdoors
Controls pre-adult fleas (larvae) up to 8 weeks
Biorational [approach to] flea control outdoors
Microencapsulated Formula

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E, 4E, 7S)-11-methoxy-3,7,11-trimethyl-2,4-dodecadienoate] . 20.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE:

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

RECOMMENDED APPLICATIONS -- Introduction: Zoecon RF-437 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION

Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- 1. SHAKE WELL BEFORE USING. Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use clean equipment.
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
- 4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES

Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, salt marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding without removal of livestock.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid <u>Bacillus thuringiensis</u> variety <u>israeliensis</u> (<u>B.t.i.</u>) formulations, such as **TEKNAR HP-D** (or its equivalent). The ratio of **TEKNAR HP-D** to RF-437 should range from **24:1** to 50:1 (volume/volume). For example, to prepare a **50:1** tank mix, add **1** gallon of RF-437 to **50** gallons of <u>B.t.i.</u> This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: (1) When using a hose-end sprayer, place 0.75 ounces of RF-437 in bottle, add 6 ounces of water and apply at low pressure. (2) Make sure to apply at 0.75 ounces of RF-437 per 15 gallons of water. (3) Apply 0.75 ounces of RF-437 in 15 gallons of water to every 750 square feet of residential turf. (4) Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches. (5) If a large population of fleas is present, [an outdoor flea control product] [brand name of outdoor flea control product] should be used for initial kill of adult fleas.

The user, at his discretion can [tank] mix RF-437 with an adulticide currently registered for use unless the product label prohibits such mixing. Use of the resulting tank mixture must be used in accordance with the more restrictive label limitations and precautions.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Sandoz Agro, Inc. 1300 E. Touhy Ave. Des Plaines, IL. 60013

EPA Reg. No. 2724-446 0495-A

ACCEPTED

... [] optional wording

SEP 2 1 1994

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amonded, for the

ZOECON REPUBLICATION AND POSTICION REPUBLICATION OF THE PUBLICATION OF MOSQUITO **GROWTH REGULATOR** SR-20

Prevents emergence of adult floodwater mosquitoes

Prevents emergence of adult fleas up to 8 weeks outdoors Controls pre-adult fleas (larvae) up to 8 weeks Eldrational [approach to] flea control outdoors Microencapsulated Formula

ACTIVE INGREDIENT: (S)-Methoprene [Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4dodecadlenoate1..... 20.0% INERT INGREDIENTS 80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE QUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

AZARDS TO HUMANS - CAUTION: Causes moderate eve irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its lebeling.

CHEMICATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any Irrigation system unless the supplemental labeling on chamigation is followed.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-437 must be applied to 2nd, 3rd, or 4th larval Instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoacon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals, of spray solution per acre (4,7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz, of Zoecon RF-437 per acre (55 to 73 mVhectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- 1. SHAKE WELL BEFORE USING. Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use dean equipment.
- 3. Partially fill spray lank with water, then add the recommended amount of Zoecon RF-437, egitate and complete filling. Mild agitation during application is desirable.
- 4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, salt marshes, woodland pools and meadows. dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irripated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding without removal of livestock.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with Ildula Bacillos in Urindianals Variety Israellensis (B.I.I.) formulation such as TEKNAR HP-D (or its equivalent). The ratio of TEKNAR HP-D to RF-437 should range from 24:1 to 50:1 (volume/volume). For example, to prepare a 50:1 tank mix, add 1 gallon of RF-437 to 50 gallons of B.t.l. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1,2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turl. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water. If a large population of fleas is present, fan outdoor flea control product)[brand name of outdoor flea control product] should be used of initial kill of adult fleas.

The user, at his discretion can [tank] mix AF-437 with an adulticide currently registered for use unless the product label prohibits such mixing. Use of the resulting tank mixture must be used in accordance with the more restrictive label limitations and precautions.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed, in case of leakage or spill, "soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a-sanitary landfill, or incineration, or, if allowed by State and local, authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

> Zoecon Corporation A Sandoz Company 12200 Denion Orive, Dallas, Texas 75234

EPA Reg. No. 2724-448 0793-E



CORPORATE HEADQUARTERS

TEL. 708.699,1616

Environmental Protection Agency
Biopesticides and Pollution Prevention Division (7501W)
Document Processing Desk
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attn: Mr. Willie Nelson

February 21, 1995

Subject:

- Unidentified Inert Ingredient in Altosid Liquid Larvicide Concentrate - EPA Reg. No. : 2724-446

Response to your correspondence of January 25, 1995.

Dear Mr. Nelson:

In a letter from Janet Anderson dated January 25, 1995, we were asked to provide the chemical identity, CAS No. and any other information we have related to the inert ingredient which is designated on the Confidential Statement of Formula as a component in Altosid Liquid Larvicide Concentrate.

The CAS No. for An MSDS from the Department of Labor is included for your information.

Please contact me at (708) 390-3007 if you have any questions. Yours Sincerely,

SANDOZ AGRO, Inc.

Steven R. Spaulding

Senior Registration Specialist

Pages 13-14 Inert ingredient information may be entitled to confidential treatment

JUL 08 1994

c/o Ms. Ada M. Breaux Sandoz Agro, Inc. 1300 E. Touhy Avenue Des Plaines, Illinois 60018

Dear Ms. Breaux:

Subject: Zoecon RF-372 Collar # ## (
EPA Reg. No. 27274-4#6
Your submission of July 14, 1994

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is not acceptable, for the reasons given below.

- 1. All of the proposed alternate formulations contain for which we do not know the chemical composition, and each alternate formulation contain different pigment for which we don not have a chemical identity.
- 2. Zoecon must have the supplier of pigments

 submit to the Agency complete chemical composition of the above components including chemical names, CAS Reg. No.'s and percentages of each component if mixture and Material Safety Data Sheet and Health Effects.
- 3. The Confidential Statements of Formula may not be approved until the chemical identity information has been received and found acceptable.

Inert ingredient information may be entitled to confidential treatment

CONCURRENCES									
SYMBOL)					Tames Lawrence				
SURNAME						***************************************	***************************************	*************	
DATE					***************************************				

EPA Form 1320-1A (1/90)

-2-

4. Additionally, all methoprene products are under the auspices of the Methoprene R.E.D., and as such, must comply with the labeling requirements most suitable for the product.

Should you have any questions, feel free to contact Mr Willie H. Nelson at (703) 305-6601, who is handling this product.

Sincerely yours,

forPhil Hutton, PM-18

Insecticide Rodenticide Branch Registration Division (7505C)

CONCURRENCES								
SYMBOL							A STATE OF THE STA	
SURNAME								
DATE		1		1				****************

EPA Form 1320-1A (1/90)

Printed on Recycled Paper

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

14 July 1993

Mr. Phil Hutton
Product Manager (18)
Insecticide-Rodenticide Branch
Registration Division (H7505C)
Document Processing Desk (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall, Bldg. 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

RE: Zoecon RF-437 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446

Amendment to Include Additional Use Sites for Mosquito Vector Control, to Include Use for Fleas In Lawns, Tank Mixing, and Clarification of Salt Marsh Language.

Dear Mr. Hutton:

By way of this application, we propose three actions:

Use of Zoecon RF-437 in irrigated croplands after flooding to control mosquito emergence.

Examples of such sites include vineyards, rice fields, date palm orchards, fruit and nut orchards and berry fields and bogs. Mosquitos develop in the irrigation water in these areas. These types of mosquito vector control uses are no longer considered food uses (Reregistration Eligibility Document for methoprene, List A, Case 0030, page 10). Application to irrigation water in rice fields is currently approved for this product. However, we have modified the language on the label regarding rice since currently-approved language relates to rice-growing practices that are not applicable in all areas.

Changes related to the new use sites are highlighted in yellow on the label.

Use of Zoecon RF-437 on lawns for flea control.

This product is a microencapsulated product allowing slow-release and protection of (S)-methoprene outdoors. Enclosed are efficacy data supporting the outdoor use for flea control:

MRID Number

Study

42855001

Meola, R., Donahue, B. Efficacy of Juvenoids in Soil-filled Peat Pots for Outdoor Control of Cat Fleas. Texas A & M University. Gompound Screening. Unpublished. 8 pages.

The flea efficacy data support use at a rate of one fluid ounce per 1000 square feet of yard (6 milligrams of active ingredient per square foot of surface area). The data were generated on ALTOSID Liquid Larvicide (A.L.L.), EPA Reg. No. 2724-392, containing 5% (S)-methoprene.

Zoecon RF-437 is the same as A.L.L. except it contains 20% (S)-methoprene. Therefore, since RF-437 is more concentrated, it is a more economical product. When we market the flea product, we'll delete the mosquito control directions and claims.

Changes related to the flea use are highlighted in pink.

3. Tank mixing Zoecon RF-437 with Teknar HP-D, EPA Reg. No. 2724-365.

Changes related to tank mixing are highlighted in blue on the label.

4. Clarification of Salt Marsh Language.

Finally, we removed the statement "around estuarine areas, treat high salt marsh or tidal marsh above high tide water level" because it was erroneous. We have, in its place, added the salt marshes. This use site would allow the estuarine, salt and tidal marsh treatments at the same use rate and instructions as the other noncrop areas without the erroneous language.

Changes related to the salt marsh language are highlighted in orange.

Amendments for the added sites and flea use were submitted separately in March of 1991. Over the last two years, we have continuously discussed and corresponded with the Agency regarding their progress. However, at our last check on their status, we were told the applications had been lost. We have already suffered considerable delay in processing these changes. Therefore, we would appreciate your attention and expeditious review of this application.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512



United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460

Registration **Amendment** Application for Pesticide:

OPP Identifier Number

156453

	Section I			-		All the same of	
I. Company/Product Number 2724-446		2. EPA Product Ma Phil Hutto	Service - Service 110	3.	Proposed	Classificati	on
		PM#	ווע	5	None	Res	tricted
4. Company/Product (Name) Zoecon RF-437 Mosqu	uito						1
Growth Regulator SR-20		18			ti eleni		
5. Name and Address of Applicant (Include ZIP Code) Zoecon Corporation A Sandoz Company 12200 Denton Drive Dallas, Tx 75234		6. Expedited Re (b)(i), my product to: EPA Reg. No					
Check if this is a new address		Product Name					
Se	ection I I		10.		Thosa 1111	17	Mo
X Amendment - Explain below		Final printed Agency letter	labels in respo	nse to			
Resubmission in response to Agency letter dated	1.00	"Me Too" App				Mary	
Notification - Explain below.		Other - explai	in below.				
Explanation: Use additional page(s) if necessary. (For sec	ction Land S	ection II)	THE PER	To the r			
To Include Additional Use Sites for Include Use for Fleas in Lawns, and Salt Marsh Language	r Mosqu d Tank M	ito Vector Co Mixing and CI	ontrol and ariticat	to ion of	Co		
	ction III			And the	200 P		
Material This Product Will Be Packaged in:		0.644.0.4-5	I2 Tue	a of Contain			
1. Material This Product Will Be Packaged In: Child-Resistant Packaging Yes* No If "Yes," No. per	Water			e of Contai Metal Plasti Glass Paper	C		
This Product Will Be Packaged In: Child-Resistant Packaging Yes* No If "Yes," Unit Package wgt. No. per contained to the contained to th	Water X N	Yes No ,* No. 1		Metal Plasti Glass Paper	c		
This Product Will Be Packaged In: Child-Resistant Packaging Yes* No If "Yes," Unit Package wgt. * Certification must be submitted. 3. Location of Net Contents Information 4. Size(s)	Water X N	Yes No ,* No. 1 ge wgt. container	per lainer 5. Location X On L	Metal Plasti Glass Papel Other	c r (Specify)	product	
Child-Resistant Packaging Yes* No If "Yes," Unit Package wgt. * Certification must be submitted. 3. Location of Net Contents Information X Label Container Container Container Container Container Litt X Page Child-Resistant Packaging Unit Packaging Yes X No If "Yes," Unit Package wgt. Size(s) Label Container Litt X Page Child-Resistant Packaging Yes X No If "Yes," Unit Package wgt. Container Litt X Page Container Litt X Page Container Litt X Page Container	Water Water Water Water Water	Yes No ,* No. 1 ge wgt. container	per lainer 5. Location On L	Metal Plasti Glass Papel Other	c (Specify)_ rections	product)	
This Product Will Be Packaged In: Child-Resistant Packaging Yes* Yes X No If "Yes," Unit Package wgt. * Certification must be submitted. 3. Location of Net Contents Information X Label Container Container Container Container Litt Pal Ste	water If "Yes Packag of Retail Co to 55 q hograph per glued enciled Section IV	Yes No ,* No. 1 ge wgt. container allons Othe	per lainer 5. Location Non L	Metal Plasti Glass Papel Other of Label Dir abel abeling acc	c (Specify)_ rections		
This Product Will Be Packaged In: Child-Resistant Packaging Yes* Yes Yes Yes Voil Package wgt. Label Container Container Manner In Which Label Is Affixed To Product Step 1. Contact Point (Complete items directly below for identification)	of Retail Co	Yes No ,* No. 1 ge wgt. container allons Othe	per lainer 5. Location Non L	Metal Plasti Glass Papel Other of Label Dir abel abeling acc	c (Specify)_ rections companying	ation.)	a Codo
This Product Will Be Packaged In: Child-Resistant Packaging Yes* Yes X No If "Yes," Unit Package wgt. * Certification must be submitted. 3. Location of Net Contents Information X Label Container Container Container Container Litt Pal Ste	of Retail Co	Yes No ,* No. 1 ge wgt. container allons Othe	per lainer 5. Location Con L On L on L	Metal Plasti Glass Paper Other of Label Dirabel abeling accompany accomp	c (Specify)_ rections	ntion.)	a Code
This Product Will Be Packaged In: Child-Resistant Packaging Yes* Yes X No If "Yes," Unit Package wgt. Submitted. 3. Location of Net Contents Information X Label Container Container Container Container Container A Size(s) X Label Container Containe	water X N X N	Yes No. 1 Type wgt. No. 1 Type wgt. Container Type I I I I I I I I I I I I I I I I I I I	per ainer 5. Location X On L On L er (d. if necessary, accurate and or	Metal Plasti Glass Papel Other Other Dirabel abeling according acc	rections companying this applicatione No. (II/888-87.	ntion.)	
Child-Resistant Packaging Yes* No If "Yes," Unit Package wgt. * Certification must be submitted. 3. Location of Net Contents Information X Label Container Container Container Container Container Litt A Size(s) Litt A Size(s) Steep submitted. Contact Point (Complete items directly below for identification was all acknowledge that any knowingly false or misleading state.	water X N X N	Yes No. 1 Type wgt. No. 1 Type wgt. Container Type I I I I I I I I I I I I I I I I I I I	per ainer 5. Location X On L On L er (d. if necessary, accurate and or	Metal Plasti Glass Papel Other Other Dirabel abeling according acc	rections companying this applicatione No. (II/888-87.	ntion.) nclude Are. 26 Application	
Child-Resistant Packaging Yes* Yes* No If "Yes," Unit Package wgt. Certification must be submitted. 3. Location of Net Contents Information X Label Container Lift Pag Ste Ste Certificat Contact Point (Complete items directly below for identificat Name Kelly J. Parker Certificat Certificat Certificat Certificat Contact Point (Complete items directly below for identificat Name Kelly J. Parker Certificat Certificat Licertify that the statements I have made on this form and at I acknowledge that any knowingly false or misleading stat both under applicable law.	water If "Yes er Packag of Retail Co to 55 qa hograph per glued enciled Section IV ation of indivi- Regu tion all attachment tement may	Yes No. 1 Type wgt. No. 1 Type wgt. Container Type I I I I I I I I I I I I I I I I I I I	per ainer 5. Location On L or (di necessary, accurate and come or imprisonm	Metal Plasti Glass Papel Other Other Dirabel abeling according acc	rections companying this applicatione No. (II/888-87.	ntion.) nclude Are. 26 Application	

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the propesed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendment to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

- 1. Subject of submission Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by ... " "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.
- SECTION-III (Packaging and Container Information) This Section must be completed for all applications submitted in connection with new registration or applicable amendments.
- 1: Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types.

- Indicate the size of the individual packets and number per retail container.

 2. Type of Retail Container Indicate type of container in which product will be marketed.

 3. Location of Ret Contents Specify the net contents of all retail containers for your product.
- 4. Size(s) of Remail Container Specify the net contents of all retail containers for your product.
- 9. Location of Use Directions Indicate the location of the use directions for your product.
- . Manner in which label is affixed to product Indicate the method product label is attached to retail container.
- SECTION IV (Contact Point) This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.
 - 1-5. Self-explanatory.
 - 6. EPA Use Only.

	Please read Instructions on reverse before completing form.	Form Appr	oved, OMB No. 2070-006	60. Approval expires 11-30-93
	(A) SEPA United States Environmental Protection of Pesticide Programs (No. 1) Washington, DC 20460 Application for Pesticide Programs (No. 1) Application	(7505C)	Registration Amendment Other	OPP Identifier Number
		sticide.	Other	100400
	Section I	2. EPA Product Man		Proposed Classification
ı	1. Company/Product Number 2724-446	Phil Hutton		- Proposed Classification
ī	4. Company/Product (Name) Zoecon RF-437 Mosquito	PM#	X	None Restricted
	Growth Regulator SR-20	46		
H	Name and Address of Applicant (Include ZIP Code)	6. Expedited Rev	lew. In accordance wit	th FIFRA Section 3(c)(3)
H	Zoecon Corporation	(b)(i), my product is		composition and labeling
	A Sandoz Company	to:		
	12200 Denton Drive Dallas, Tx 75234	EPA Reg. No		
	Check if this is a new address	Product Name		
	Section I I	Product Name		
		- Endedon Un		
	X Amendment - Explain below	Agency letter	bels in response to dated	
	Resubmission in response to Agency letter dated	"Me Too" Appli	cation	
	Notification - Explain below.	H		
3		Other - explain	below.	
	Explanation: Use additional page(s) if necessary. (For section I and Se	ection II.)		
9	To Include Additional Use Sites for Mosqu	to Vector Cor	itrol and to	
	Include Use for Fleas in Lawns, and Tank I	fixing and Cla	rification of	
	Salt Marsh Language			
		A Company of the Company		
	Section III	K .	STREET, STREET,	Commenter of the second
9	Material This Product Will Be Packaged in:		10.7 (0.11	
ī		Soluble Packaging	2. Type of Contain	er
		es	X Metal X Plastic	
	No X No	200	Glass	
	If "Yes," No. per If "Yes," Unit Package wgt. container Package		Other (Specify)
	* Certification must be submitted. Unit Package wgt. container Package wgt.	5g		
Ŋ	Location of Net Contents Information 4. Size(s) of Retail Co.	ntainer	5. Location of Label Dire	ctions
	X Label Container 1 oz. to 55 ga	llons		mpanying product
	6. Manner In Which Label Is Affixed To Product Lithograph Paper glued	Other		
	Stenciled	The party		
À	Section IV 1. Contact Point (Complete items directly below for identification of indivi	dual to be contacted	f necessary to process to	his application)
	Name Title	abar to be contactor, i		ne No. (Include Area Code)
	Kelly J. Parker Regu	latory Specia		888-8726
i	Certification I certify that the statements I have made on this form and all attachmen	te thoroto are toro	aurata and camplata	Date Application Received
4	I acknowledge that any knowingly false or misleading statement may			(Stamped)
	both under applicable law.	No. of the last	The state of the s	*
	2. Signature 3. Title			
	KILL CHARKIN Regu	latory Specia	list	1.0
-	4. Typed Name 5. Date		THE RESERVE	
	Kelly 0 . Parker	14 July 1993		21
L	PA Form 8570-1 (Rev. 12-90) Previous editions are obsolete.	White - EPA	File Copy (original)	Yellow - Applicant copy

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendmen to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

- 1. Subject of submission Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.
- SECTION TII (Packaging and Container Information) This Section must be completed for all applications submitted in connection with new registration or applicable amendments.
 - 1. Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types.
 - Indicate the size of the individual packets and number per retail container.
- **2. Type of Retail Container Indicate type of container in which product will be marketed.
- ••3. Location of Net Contents Specify the net contents of all retail containers for your product.
- •4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.

 •5. Location of the Directions Indicate the location of the use directions for your product.
- - . 6. Manner in which label is affixed to product Indicate the method product label is attached to retail container.
- SECTION IV (Contact Point) This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc. 1-5. Self-explanatory.
 - 6. EPA Use Only.





Prevents emergence of adult floodwater mosquitoes

Prevents emergence of adult fleas up to 8 weeks outdoors
Controls pre-adult fleas (larvae) up to 8 weeks
Biorational [epproach to] flea control outdoors
Microencapsulated Formula

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)11-methoxy-3,7,11-trimethyl-2,4dodecadienoate] 20.0%
INERT INGREDIENTS: 80.0%

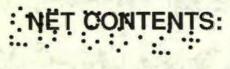
Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.





PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

RECOMMENDED APPLICATIONS -- Introduction: Zoecon RF-437 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- SHAKE WELL BEFORE USING. Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use clean equipment.
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
- Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, salt marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit end nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding without removal of livestock.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid Bacillus thuringlensis variety israeliensis (B.t.t.) formulations, such as TEKNAR HP-D (or its equivalent). The ratio of TEKNAR HP-D to RF-437 should range from 24:1 to 50:1 (volume/volume). For example, to prepare a 50:1 tank mix, add 1 gallon of RF-437 to 50 gallons of B.t.i. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1,2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water. If a large population of fleas is present, (an outdoor flea control product)[brand name of outdoor flea control product] should be used of initial kill of adult fleas.

The user, at his discretion can [tank] mix RF-437 with an adulticide currently registered for use unless the product label prohibits such mixing. Use of the resulting tank mixture must be used in accordance with the more restrictive label limitations and precautions.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another ebsorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Zoecon Corporation A Sandoz Company 12200 Denton Orive, Dallas, Texas 75234

EPA Reg. No. 2724-446 0793-E







Prevents emergence of adult floodwater mosquitoes

Prevents emergence of adult fleas up to 8 weeks outdoors Controls pre-adult fleas (larvae) up to 8 weeks Biorational [approach to] flea control outdoors Microencapsulated Formula

ACTIVE INGREDIENT:

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

RECOMMENDED APPLICATIONS -- introduction: Zoecon RF-437 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- 1. SHAKE WELL BEFORE USING. Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use clean equipment,
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
- 4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, salt marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding **without** removal of livestock.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid <u>Bacillus thuringlensis</u> variety <u>israeliensis</u> (<u>B.t.i.</u>) formulations, such as <u>TEKNAR HP-D</u> (or its equivalent). The ratio of <u>TEKNAR HP-D</u> to RF-437 should range from <u>24:1</u> to 50:1 (volume/volume). For example, to prepare a <u>50:1</u> tank mix, add 1 gallon of RF-437 to <u>50</u> gallons of <u>B.t.i.</u> This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water. If a large population of fleas is present, [an outdoor flea control product][brand name of outdoor flea control product] should be used of initial kill of adult fleas.

The user, at his discretion can [tank] mix RF-437 with an adulticide currently registered for use unless the product label prohibits such mixing. Use of the resulting tank mixture must be used in accordance with the more restrictive label limitations and precautions.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by buming. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 0793-E







Prevents emergence of adult floodwater mosquitoes

Prevents emergence of adult fleas up to 8 weeks outdoors Controls pre-adult fleas (larvae) up to 8 weeks Biorational [approach to] flea control outdoors Microencapsulated Formula

ACTIVE INGREDIENT:

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

CHEMIGATION: Refer to supplemental labeling entitled "Gulde to **Product Application**" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

RECOMMENDED APPLICATIONS — Introduction: Zoecon RF-437 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION – Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- SHAKE WELL BEFORE USING. Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use dean equipment.
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
- 4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, salt marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding without removal of livestock.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid Bacillus thuringiensis variety Israeliensis (B.t.i.) formulations, such as TEKNAR HP-D (or its equivalent). The ratio of TEKNAR HP-D to RF-437 should range from 24:1 to 50:1 (volume/volume). For example, to prepare a 50:1 tank mix, add 1 gallon of RF-437 to 50 gallons of B.t.i. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turl. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water. If a large population of fleas is present, [an outdoor flea control product][brand name of outdoor flea control product] should be used of initial kill of adult fleas.

The user, at his discretion can [tank] mix RF-437 with an adulticide currently registered for use unless the product label prohibits such mixing. Use of the resulting tank mixture must be used in accordance with the more restrictive label limitations and precautions.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by buming. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Zoecon Corporation A Sandoz Company 12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 0793-E







Prevents emergence of adult floodwater mosquitoes

Prevents emergence of adult fleas up to 8 weeks outdoors Controls pre-adult fleas (larvae) up to 8 weeks Biorational [approach to] flea control outdoors Microencapsulated Formula

ACTIVE INGREDIENT:

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to **Product Application**" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

RECOMMENDED APPLICATIONS – Introduction: Zoecon RF-437 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Gulde to Product Application.

METHODS OF APPLICATION -- Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- 1. SHAKE WELL BEFORE USING. Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use clean equipment.
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
- 4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, salt marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding without removal of livestock.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid <u>Bacillus thuringiensis</u> variety <u>israeliensis</u> (<u>B.i.i.</u>) formulations, such as **TEKNAR HP-D** (or its equivalent). The ratio of **TEKNAR HP-D** to RF-437 should range from **24:1** to 50:1 (volume/volume). For example, to prepare a **50:1** tank mix, add **1** gallon of RF-437 to **50** gallons of <u>B.i.i.</u> This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water. If a large population of fleas is present, [an outdoor flea control product][brand name of outdoor flea control product] should be used of initial kill of adult fleas.

The user, at his discretion can [tank] mix RF-437 with an adulticide currently registered for use unless the product label prohibits such mixing. Use of the resulting tank mixture must be used in accordance with the more restrictive label limitations and precautions.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by buming. If bumed, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Zoecon Corporation A Sandoz Company 12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 0793-E







Prevents emergence of adult floodwater mosquitoes

Prevents emergence of adult fleas up to 8 weeks outdoors Controls pre-adult fleas (larvae) up to 8 weeks Biorational [approach to] flea control outdoors Microencapsulated Formula

ACTIVE INGREDIENT:

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

RECOMMENDED APPLICATIONS — Introduction: Zoecon RF-437 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION – Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/hectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- 1. SHAKE WELL BEFORE USING. Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use clean equipment.
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
- 4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas:

Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, salt marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding **without** removal of livestock.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid <u>Bacillus</u> thuringiensis variety <u>israeliensis</u> (<u>B.t.i.</u>) formulations, such as **TEKNAR HP-D** (or its equivalent). The ratio of **TEKNAR** HP-D to RF-437 should range from **24:1** to 50:1 (volume/volume). For example, to prepare a **50:1** tank mix, add 1 gallon of RF-437 to **50** gallons of <u>B.t.i.</u> This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water. If a large population of fleas is present, [an outdoor flea control product][brand name of outdoor flea control product] should be used of initial kill of adult fleas.

The user, at his discretion can [tank] mix RF-437 with an adulticide currently registered for use unless the product label prohibits such mixing. Use of the resulting tank mixture must be used in accordance with the more restrictive label limitations and precautions.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by buming. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Zoecon Corporation A Sandoz Company 12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 0793-E

W800

PM 18

This is an accepted submission. One copy of the PPC diagnosis and one of the annotated bibliography are provided for your files. The PPC has already mailed out the submitter's copies of the two documents.

This is a partially accepted/rejected submission. A copy of the PPC diagnosis and of the annotated bibliography (if applicable) are provided for your files. A second copy is provided for your use in corresponding with the data submitter.

U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs

JUL 23 1993

ZOECON CORPORATION A SANDOZ COMPANY 12200 DENTON DRIVE DALLAS, TX 75234

Report of Analysis for Compliance with PR Notice 86-5

Thank you for your transmittal of 07/22/93. Our staff has completed a preliminary analysis of the material. The results are provided as follows:

Your submittal was found to be in full compliance with the standards for submission of data contained in PR Notice 86-5. A copy of your bibliography is enclosed, annotated with Master Record ID's (MRIDs) assigned to each document submitted. Please use these numbers in all future references to these documents. Thank you for your cooperation. If you have any questions concerning this data submission, please raise them with the cognizant Product Manager, to whom the data have been released.

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

14 July 1993

Mr. Phil Hutton
Product Manager (18)
Insecticide-Rodenticide Branch
Registration Division (H7505C)
Document Processing Desk (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall, Bldg. 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

RE: Zoecon RF-437 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446

Amendment to Include Additional Use Sites for Mosquito Vector Control, to Include Use for Fleas in Lawns, Tank Mixing, and Clarification of Salt Marsh Language.

Dear Mr. Hutton:

By way of this application, we propose three actions:

1. Use of Zoecon RF-437 in irrigated croplands after flooding to control mosquito emergence.

Examples of such sites include vineyards, rice fields, date palm orchards, fruit and nut orchards and berry fields and bogs. Mosquitos develop in the irrigation water in these areas. These types of mosquito vector control uses are no longer considered food uses (Reregistration Eligibility Document for methoprene, List A, Case 0030, page 10). Application to irrigation water in rice fields is currently approved for this product. However, we have modified the language on the label regarding rice since currently-approved language relates to rice-growing practices that are not applicable in all areas.

Changes related to the new use sites are highlighted in yellow on the label.

2. Use of Zoecon RF-437 on lawns for flea control.

This product is a microencapsulated product allowing slow-release and protection of (S)-methoprene outdoors. Enclosed are efficacy data supporting the outdoor use for flea control:

MRID Number

Study

42855001

Meola, R., Donahue, B. Efficacy of Juvenoids in Soil-filled Peat Pots for Outdoor Control of Cat Fleas. Texas A & M University. Compound Screening. Unpublished. 8 pages.

The flea efficacy data support use at a rate of one fluid ounce per 1000 square feet of yard (6 milligrams of active ingredient per square foot of surface area). The data were generated on ALTOSID Liquid Larvicide (A.L.L.), EPA Req. No. 2724-392, containing 5% (S)-methoprene.

Zoecon RF-437 is the same as A.L.L. except it contains 20% (S)-methoprene. Therefore, since RF-437 is more concentrated, it is a more economical product. When we market the flea product, we'll delete the mosquito control directions and claims.

Changes related to the flea use are highlighted in pink.

3. Tank mixing Zoecon RF-437 with Teknar HP-D, EPA Reg. No. 2724-365.

Changes related to tank mixing are highlighted in blue on the label.

4. Clarification of Salt Marsh Language.

Finally, we removed the statement "around estuarine areas, treat high salt marsh or tidal marsh above high tide water level" because it was erroneous. We have, in its place, added the salt marshes. This use site would allow the estuarine, salt and tidal marsh treatments at the same use rate and instructions as the other noncrop areas without the erroneous language.

Changes related to the salt marsh language are highlighted in orange.

Amendments for the added sites and flea use were submitted separately in March of 1991. Over the last two years, we have continuously discussed and corresponded with the Agency regarding their progress. However, at our last check on their status, we were told the applications had been lost. We have already suffered considerable delay in processing these changes. Therefore, we would appreciate your attention and expeditious review of this application.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

AMENDMENT

	APPLIC		RACK * FOR AMENDMEN	T		
WITH DATA	Init.	Date		NO DATA	Init.	Date
FEU				FEU		
SIG (DATA)				PM		
FEU						
PM	<u></u>					
	APPLIC		ULAR FOR AMENDMEN			
<u>WITH DATA</u>	Init.	Date	his data	NO DATA	Init.	
FEU			not l	FEU	DM	7/22/93
SIG (DATA)				PM		
PM						

* Front End Processing determined this application qualifies for fast track review based on registrants claim of "me-too". No screen for substantial similarity is made by the Front End.

NEW REGISTRATION OR NEW EUP

	APPL		AST TRACK * FOR NEW REGIST	TRATION	ſ		
WITH DATA	Init.	Date	NO DATA	<u>k</u>	Init.	Date	
FEU			FEU				_
Fileroom/PRDTS			Fileroo	m/PRDT	5		_
SIG (DATA)			PM				_
Fileroom/PRDTS							
FEU							
Fileroom/PRDTS							
PM							
	APPL	CATION	REGULAR I FOR NEW REGIST	TRATION	1		
Includes new pe		EXPERI	FOR NEW REGIST	I IT	NO		
_		for to	or MENTAL USE PERM olerance: YE	I IT		Init.	Date
WITH DATA	etition	for to	or MENTAL USE PERM olerance: YE	S or		Init.	Date
WITH DATA	etition	for to	FOR NEW REGIST OF MENTAL USE PERM Olerance: YE NO FE	S or	NO	Init.	Date
WITH DATA FEU	etition	for to	FOR NEW REGIST OF MENTAL USE PERM Olerance: YE NO FE	S or DATA	NO	Init.	Date
WITH DATA FEU Fileroom/PRDTS	Init.	for to	FOR NEW REGIST OF MENTAL USE PERM Olerance: YE NO FE	S or DATA	NO	Init.	Date

^{*} Front End Processing determined this application qualifies for fast track review based on registrants claim of "me-too". No screen for substantial similarity is made by the Front End.

expedite

1-27-42

2724-446

LABEL: Y

DP BARCODE: D172322

Um Sectional

CASE: 028442 SUBMISSION: S408489 DATA PACKAGE RECORD BEAN SHEET

DATE: 12/13/91 Page 1 of 1

CASE/SUBMISSION INFORMATION * * *

ACTION: 405 DATA-ADVERSE DATA CASE TYPE: REGISTRATION

CHEMICALS: 105402 Isopropyl-11-methoxy (2E, 4E, 7S) -3,7,11-trimethyl-2 20.0000%

ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20 ID#: 002724-00446

COMPANY: 002724 ZOECON CORPORATION

PRODUCT MANAGER: 18 PHILLIP HUTTON 213 703-305-7690 ROOM: CM2 PM TEAM REVIEWER: WILLIE NELSON 703-305-6601 ROOM: CM2 209

RECEIVED DATE: 11/25/91 DUE OUT DATE: 02/03/92

* * * DATA PACKAGE INFORMATION * * *

EXPEDITE: Y DATE SENT: 12/13/91 DATE RET.: / P BARCODE: 172322 HEMICAL: 105402 Isopropyl-11-methoxy (2E, 4E, 7S)-3,7,11-trimethyl-2,4-dodeca

DP TYPE: 001 Submission Related Data Package

ADMIN DUE DATE: 01/07/92

DATE IN ASSIGNED TO DATE OUT

DIV : RD

BRAN: RSB

SECT: PRS wm. 5-/ Looktow

REVR : CONTR:

* * * DATA REVIEW INSTRUCTIONS * * *

PLEASE REVIEW THIS DATA FOR FIFRA COMPLIANCE.

* ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC BRANCH/SECTION DATE OUT DUE BACK INS CSF LABEL

We beceived this bear sheet and verieus

7-92 and needs immediate veriew.

Van Seysangh.

03 dund to 1-05 enc (vil)

34

SUBJECT:	EPA Reg. No	./File Symbol
Z	oecon RF-	379 Mosqueto Growth Regulator SR-
FROM:	Precautiona Registratio	Woodrow USU 1-10-92 ry Review Section n Support Branch Division (H75-05C)
TO:	P. Hutlon Insecticide Pegistratio	- Rodenticide Branch n Division (H75-05C)
	APPLICANT:	Zoecon Cotp.
		Dallas, TX 75234
	7- 5:	34
FORMULAT	ON FROM LABE	L:
Acti (s)	ve Ingredien	t(s): 2 FISORTORY (2 F. 4 E. 7 5) -
II-	methory-3,	211 trimethy -2, 4-dodeca- 200
Iner	t Ingredient	(s):

100.0%

$\frac{1}{\sqrt{2}} \frac{1}{\sqrt{2}} \frac{1}{\sqrt{2}$
BACKGROUND
Zaccon Carp subject that acute and acute
Zoecon Corp. submitted acute oral, acute dermal, eye irritation and dermal
derma ; ege (eritation and account
sensitiva atimo studies to support teristration
of Zoecon RF-437 Mosquito Growth Regulator
SR-20 (EPA Rg. NO. 2724- 446). MRID
NOS. used were 421084-02, -03, -05, and
421684-06.
RECOMMENDATION
1) The acute toricity studies submitted by
Zoccon are acceptable. All studies were
graded Core Quideling data.
2) The Registrant must submit:
a. A dermal ittitation study, and
- b. An acute inhalation study
3) - Cuttent quite toxicity profile for
Zoccon RF-437 Mosquito Growth Regulator SR-20 (2724-446):
SR-20 (2724-446) &
-study Results Classification Tox. Cat.
acute out 1000>5:15/kg Guideline IV
acute dermal LDso > 2.19/kg Guideline 111
eye Itentation Fert absent day 3 Guildine 111
skun sensitization 18 detend Sensitizer Guideline
· · · · · · · · · · · · · · · · · · ·

4) PM NOTE: Upon receipt of requested
acute tomaty studies. Precautionary
Labeling may need tevising.
LABELING
1) The CAUTION signal word is appropriate.
1) The CAUTION signal word is appropriate. 2) Change the Precautionary Statements as
fallows:
"Causes (moderate) eye injuty: Harmful
"Causes (moderate) eye injuty: Harmful it absorbed through skin. Avoid contact
with skin, eyes or clothing - Wash thoroughly
with soap and water after handling."
3) Add a paragraph entitled"
Statements of Practical Treatment
If on skin: Wash with planter of
If on skin: Wash with planty of Soup and water. Get medical
attention.
If in eyes: Flush with plenty of
water- Call a physician it initation
petsists.

) Add the the	tollow	Inc. S	tate	ments	und
the Preca	uit I on at	4	abeli	ines :	
		1 100			
11.00		7			
Prolonged	ot	treque	ntly	tepear	telsk
Contact In som	man	cause	alle	etgic_	reacti
1n 50m	e_lind	indua	11		
		·			
					 .
·					 /.
·				, ··	
			;		
	·	; •			
	·. :			· · · · · · · · · · · · · · · · · · ·	
	-				<u>-</u>
					
	t: 		·		
· 					
			·		_
			<u>.</u>	<u>:</u>	
	. — ——————————————————————————————————				
				<u> </u>	
			· .	·	

	AL TOXICIT			/
Product Manager: (18)	2.7 5.0	7 Review	er: Mall	
MRID No.: 42/084-02	J-25-	Report	Date: 1-32	
Testing Facility: SRI Intern	trin 1 in		No. LSC 2673	3-10037-91
Author(s): Y.E. Schindler	2-C. Bal	durin	COV 66/2	Z INOSE II
Species: Rat, Sprague Dawl		0		
Age: 9-10 weeks old	Obser	vation Days		
Weight: M 193-206 F187-201 9		ure): (14);	other ()	_
Source: Simonsen Labs.	CHILLON,	CA	. 5/- #3	
Test Material: Zoecon RF- 43	hall s	437N V	N XIOT TOC	
Quality Assurance (40 CFR §160	1.121. 400	(Q.A. =	(gelen Ve)	- liquid
Conclusion:	THE RESERVE			ph
	美国			7-8
1. LD50 (mg/kg): Males =	2-11	100	; Females	=
2 Mbs settlested VDss is 5	; Combin	neg =		_
 The estimated LD50 is Tox. Category: /V . Cl 	assificat	bn:	erdeline	_
	27.540000	The state of the s		_,
Procedure (Deviations From §81	-1): Ans	nals seed	tentined 5	day pre-
		P		/
test, and fasted overnight	> Undele	ited last	mat. de	sel at
5-19/10 to ma Frate (u amoli	- landen	esta - Inua	- limb.
3-19/18 10 M3 PARIET	7.7004	of acres	1109 0	my
Results: Animals observed 1	for tope	a signo a	of mortale	to e
0.5, 2, 4, 6 hrs post	-dosing	and 2 x	Daile to 10	Part 14.
/ -/ T / Dondet ad				
Reported	Mortality	*****		ay in
	(NUMBER	KILLED/NUM	BER TESTED)	ay it
DOSAGE (g /kg)	(NUMBER Males	KILLED/NUM Females	BER TESTED) Combined	ay 14.
	(NUMBER	KILLED/NUM	BER TESTED)	29 14
	(NUMBER	KILLED/NUM	BER TESTED)	-
	(NUMBER	KILLED/NUM	BER TESTED)	4
	(NUMBER	KILLED/NUM	BER TESTED)	
	(NUMBER	KILLED/NUM	BER TESTED)	
	(NUMBER	KILLED/NUM	BER TESTED)	ay iv
	(NUMBER	KILLED/NUM	BER TESTED)	
	(NUMBER	KILLED/NUM	BER TESTED)	ay iv
	(NUMBER	KILLED/NUM	BER TESTED)	ay iv
DOSAGE (g /kg) 5.1 g / kg	(NUMBER Males	KILLED/NUM	BER TESTED)	ay iv
	(NUMBER Males	KILLED/NUM	BER TESTED)	ay iv
DOSAGE (g /kg) 5./ g / kg Symptomology & Gross Necropsy I	(NUMBER Males 5/5	Females 25	BER TESTED)	ay iv
DOSAGE (g /kg) 5.1 g / kg Symptomology & Gross Necropsy I	(NUMBER Males 5/5	Females 25	BER TESTED)	
DOSAGE (g /kg) 5./ g / kg Symptomology & Gross Necropsy I	(NUMBER Males 5/5	Females 25	BER TESTED)	fot opin
DOSAGE (g /kg) 5.1 g / kg Symptomology & Gross Necropsy I Allsots subjected to me Clinical No signs of C	(NUMBER Males 5/5	Females 25	BER TESTED)	fot grin
DOSAGE (g /kg) 5.1 g / kg Symptomology & Gross Necropsy I	(NUMBER Males 5/5	Females 25	BER TESTED)	fot grin
Symptomology & Gross Necropsy I Allast, subjected to me Clinical No signs of C	(NUMBER Males 5/5	Females 25	BER TESTED)	fot grin
Symptomology & Gross Necropsy I Allast, subjected to me Clinical No signs of C	(NUMBER Males 5/5	Females 25	BER TESTED)	eft grin
Symptomology & Gross Necropsy I Allast, subjected to me Clinical No signs of C	(NUMBER Males 5/5	Females 25	BER TESTED)	fot grin

	DATA REVIEW FOR ACUTE DERMAL TO	XICITY TESTING (§81-2)	
	Author(s): J.E. Schindler, R.C. Be Species: Reblet N.7 Linte	Wt.: m2.76-3.02, F3.01-3.17 kg liquid	
	Summary:		
	1. LD50 (mg/kg): Males = ; Com 2. The estimated LD50 is 2.1 3. Tox. Category: /// Classif	remales = ; g / kg ; fitation: Gurdeline	
•	Procedure (Deviations From \$81-2): 2	2-1 g/kg (1-0 4mg/kg) applied 45F salleits (2.02ml/kg).	
	gareye sourced a topes Entire	Truntes wrapped & dentil dan,	
	(NU	UMBER KILLED/NUMBER TESTED) ales Females Combined	
	(NU	JMBER KILLED/NUMBER TESTED)	
2000年	DOSAGE (g /kg) Ma 2.1 g / kg 0/	JMBER KILLED/NUMBER TESTED) Ales Females Combined C 9/10	
	Symptomology & Gross Necropsy Finding To daily to (4 d. Subject to gass necropsy.	MBER KILLED/NUMBER TESTED) Ales Females Combined Combined 1,2 13hr post-trentment April Day 0,7214-All tubbels	
	Symptomology & Gross Necropsy Finding To the Symptomology & Gross Necropsy Finding To the State of the Control of the Contro	MBER KILLED/NUMBER TESTED) Ales Females Combined Combined 1,2 13hr post-trentment April Day 0,7214-All tubbels	

DATA REVIE	W FOR	ACUT	E EYE	IRRI	OITAT	N TEST	ring ((§81-4)) June
Product Manager:	: (18	7)	- [6	7 - 2	5-9	Re	eviewe	er: -#	1-10-92
Testing Laborate				bunal.		Re	eport	No.LS	c 2673-m635-91
Author(s): J. F.	Schu	dler	R-	C. B.	ldwi	- 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1	<u> </u>		
Species: pabbit	- N		thate	٠			.:1 :•		
Sex: 3mx	6F				leight	: 4	ept g	iven	
Source: Wester Dosage: O.I.M.	y Or	ezan 1	2abbi	it can	Phil	unat	h, 0	<u>k. </u>	PH=8-8
Test Material: 52	emple	· NO	1242	- W 5	(A) 810	1 7	کی د	liam	d density 1.04g
Quality Assurance	e (40	CFR	§160	.12):	4031	O.K.	7 G.	L.P.	7,047
Summary:			· ;					. /	
Tox. Category:	11	<u> </u>	lassii	ficati	on:	<u> </u>	FULA	Tehn.	<u>e </u>
Procedure (Devia							See all	, ,	· / _
All rulest	espes	afar	rincel	for a	lefed	#	ifn	ed los	, caps well turthe
Jamied secon			ean i	<i>!/</i> :		/ 1 :		el ta	
flaced in Cong.	ience	tied		2,1			19	nalla	
Recults: Longth	15	eem	1	Trea	Tet. L	yes:	76-	ralbe	to not washed.
Treated ego apo	mine							realme	at a contation
NOT RIUSED	Hour	(numb	er "p	ositi Da		umber	test	ed)	grades
EYES OULY	1	1	2	3	4	7	14	21	
Cornea	0/	0/	0/	0/					1
Opacity	16	16	16	16	<u> </u>	<u> </u>	ļ	<u> </u>	,
Iris .	96	9/6	96	10/6		<u> </u>		! 	
Conjunctivae	6/3	0/	9	0/	•	İ	ļ		!
edness	16"	16	1.6	16		ļ			
Chemosis	161	96	96	96					
Discharge	46	36	1/6	%					
comments: Gend	Leng	La	the	Orai	mg. M	retho	/	No	conned or
inter all	Co	nju	relie		y Lagran	Inte	m_	als	ent long
72 Crouss.		U	<u>.</u>		· · ·		1.11	·	<i>0</i>

PROTOCOL: Decated from the testers Pepert

Group Induction Challenge Rochallenge No. Modes No. Se

Test 100% test Met. 100% testingle - 5 5

Near Cont. - 100% t. Met. - 5 5

Rechallenge Control DNCB DNCB 3 3

ONCB 80%
Veli-Cont. Ethanol DNCB - 3 3

Prior to main steely insteading 4 9. pigs (leave remod from Sweet all) treated with 04ml sentetited testimaterist applied to websel peds. Pads the Places an application site + societa with tape. 6 hour Contact. Theates siles examined and served for instalin at Zelan 48 hours. None of the (4) animals showed segues of instaling theer, einteleded timet. reach for intention (mannel , non- is justilled concentration) Industria - Deciried fig in last mot pour trested topseed on Clepped left flank & 0.4 mil eindlutet timot once weekly for 3 weeks, using walnut pads placed or some test sete. Pedo occluded with nuller lestat from & totse wrapped with stand elastic adherive topo , Chr. Contact. Porter Control frested in finisher manner with either O. 44 DAICB in 80% agrees Illund, un 80% agreen ETON-At int of 6h responences, Certificery removed, sites cesped & scotch for enthrong & clama- (0-3 scale)-Fourteer days after last intudior trestment, all green fact muterial and negative central greens - treated & O. Ums undetuted text mot sering naive (untreated) selsoon neight flanks 6 hr coulant. - Challenge setes avaluated @ 24 x 48 hours The posetion control group & vehicle control remolarly Challenged a a 0.2% sil of DNCB in 80%.

equivical, and therefore a rechalling was not necessary.	
equirical, and therefore a rechalling was not	
neenseg.	
Teauxy!	, i
1) Test Material - Male and female inherten sames:	5
	. 9
Average T. Macres @ Challerge M F 24h+ 1.5 1.1	Com
24h+ 1.5 1.1	1-3
48 hx 1.0 1.0	1.0
2) The ONCB enduced and challenged	
2) the DACB entired and challenged - animals (positive control) were sensitive	
Cerclieres:	
T/ 0 1 0 0 0 0 0 0 0 0	
The male and female of keep interest and challenged were partitlist by the	
Auch partiling tog the	
Hert Milleria	
	in and
	19
The little was continued to	

Tox Chem. No.

File Last Updated

Current date : 1-10-92

028 AAA methoprene

Study/Species/Lab/Study# Date	Material	MRID No.	Results	Tox.	Core Grade
#SRI International 10-25-91	Methopsene Zoecon RF-437 Sde# R437 N	4210848	LOSO >	IV.	quile-
existe dermal LOSO, Rabbit 5 RI International LSC 2673-Mo33-91	Li di	421084	2.15/kg.	111	quida line
Eye iteletion, Rabbit. SKI International 10-25-91 #LSC 2673-M035-91	· h	421084	All instation about by day 3	111	line
skin sensitization, guinea Pigo - SRI International LSC-2673-1036-9110-25-9	n	421084	test material did seniety Quines pizo	-	guide- line

Premie read Instructions on reverse before complete					Approval expires 11-30-9
EPA Office of Pesti Washi	ironmental Protecticide Programs (H7 ngton, DC 20460 tion for Pest	505C)		istration endment er	168980
	Section I		Service A		
Company/Product Number 2724-446	2	Phil Hutto	1976	3. Pi	roposed Classification
4. Company/Product (Name)	P	M#	/II	X	None Restricted
	A STATE OF THE PARTY OF THE PAR	1 X 1 7 7 7 7 7 1 1 1 1 1 1 1 1 1 1 1 1	18		New York As
Zoecon RF-437 Mosquito Growth Reg				day	FIEDA Cartiar Dialina
5. Name and Address of Applicant (Include ZIP Code) Zoecon Corporation A Sandoz Company 12200 Denton Drive Dallas, TX 75234 Check if this is a new address	()		t is similar or		FIFRA Section 3(c)(3) omposition and labeling
	Section II	NO EVEL AND	T-Line	BUT OF SERVICE	
Amandmost Evalate holess		Final printed	labels in respo	onse to	一年 日子座
Amendment - Explain below	40 1.5	Agency lette			
Resubmission in response to Agency letter dated_		"Me Too" Ap	plication.		
Notification - Explain below.		Other - expla	ain below.		
Explanation: Use additional page(s) if necessary. (Fo		3 03	TEL VILLE		
Material This Product Will Be Packaged In:	Section III	W			
Child-Resistant Packaging Unit Packaging	Water So	luble Packaging	2. Ty	pe of Container	
Yes* Yes	Yes			X Metal	
X No X No	X No	THE SERVICE	Level 18	X Plastic Glass	
If "Yes," No.	per If "Yes,"	No.	per	Paper	
* Certification must be Unit Package wgt. con	tainer Package		tainer	Other (S	pecity)
submitted. 3. Location of Net Contents Information 4. Siz	e(s) of Retail Contr	ainer	5. Location	of Label Direct	ions
	oz. to 55 G		I Con	The state of the s	panying product
6. Manner In Which Label Is Affixed To Product	Lithograph	Oth		Labouring accom	panying product
X	Paper glued Stenciled			100	State of the state
	Section IV	Par In		*****	
1. Contact Point (Complete items directly below for iden		al to be contacted	d, if necessary,		
Name Kelly J. Parker	Title Regula	atory Speci	alist		No (Include Area Code)
	fication	35. J Opes 1		*****	6. Date Application
I certify that the statements I have made on this form a I acknowledge that any knowingly false or misleading both under applicable law.	and all attachments	thereto are true, a punishable by fir	accurate and c ne or imprisonr	omplete: nent or	Received (Stamped)
2. Signature	3. Title			PE 18 15 1	
Kelly of Parke		tory Specia	list	LAI-THE	
4. Typed Name	5. Date		JATE OF		
Kelly J. Parker	19 Aug	ust 1991		A G	46
PA Form 8570-1 (Rev. 12-90) Previous editions a	re obsolete.	White - EP	A File Copy	(original)	Yellow - Applicant copy

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

2. Confidential Statement of Formula (EPA Form 8570-4);

3. Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling;

5. Three copies of any data submitted;

6. Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendment to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in compection with new registration or applicable amendments.

Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.

2. Type of Retail Container - Indicate type of container in which product will be marketed.

- 3. Location of Net Contents Specify the net contents of all retail containers for your product.
 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affixed to product Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

1-5. Self-explanatory.

6. EPA Use Only.

47

Please read Instructions on reverse before completing form. Form Approved. OMB No. 2070-0060. United States Environmental Protection Agency **OPP Identifier Number** Registration Office of Pesticide Programs (H7505C) Amendment Washington, DC 20460 168980 Application for Pesticide: Other Section I 1. Company/Product Number 2. EPA Product Manager **Proposed Classification** Phil Hutton 2724-446 Restricted None 4. Company/Product (Name) Zoecon RF-437 Mosquito Growth Regulator SR-6. Expedited Review. In accordance with FIFRA Section 3(c)(3) 5. Name and Address of Applicant (Include ZIP Code) (b)(i), my product is similar or identical in composition and labeling Zoecon Corporation A Sandoz Company 12200 Denton Drive EPA Reg. No. Dailas. TX 75234 Check if this is a new address **Product Name** Section II Final printed labels in response to Amendment - Explain below Agency letter dated Resubmission in response to Agency letter dated "Me Too" Application. Notification - Explain below. Other - explain below. Explanation: Use additional page(s) if necessary. (For section I and Section II.) Label Amendment Section III 1. Material This Product Will Be Packaged in: Type of Container Child-Resistant Packaging **Unit Packaging** Water Soluble Packaging Metal Yes Plastic Glass Paper If "Yes." If "Yes." No. per No. per Other (Specify Unit Package wgt container Package wgt. container Certification must be submitted. 4. Size(s) of Retail Container Location of Label Directions 3. Location of Net Contents Information On Label X Label Container to 55 Gallons On Labeling accompanying product 6. Manner In Which Label Is Affixed To Product Lithograph Other (Paper glued Stenciled Section IV 1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.) Name Telephone No. (Include Area Code) Kelly J. Parker Regulatory Specialist Date Application Certification Received I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law 2. Signature Regulatory Specialist 5. Date 4. Typed Name 48 19 August 1991 Kelly J. Parker

EPA Form \$570-1 (Rev. 12-90)

Previous editions are obsolete.

Yellow - Applicant copy

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections 1, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendment to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by ... "; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III. (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- 1. Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Specify the net contents of all retail containers for your product.
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Mammer in which label is affixed to product Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions. i.e., new products registration, resubmission, "me-too," reregistration, etc.

1-5. Self-explanatory.

6. EPA Use Only.

49

Zoecon Corporation

A SANDOZ Company

19 August 1991

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

Mr. Phil Hutton
Product Manager (18)
Insecticide-Rodenticide Branch
Registration Division (H7505C)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall, Bldg. 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

RE: ALTOSID Liquid Larvicide, EPA Reg. No. 2724-392
Zoecon RF-437 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 (a.k.a. Zoecon RF-379 Mosquito Growth Regulator SR-20)

Dear Mr. Hutton:

Enclosed are labels from which we have removed one sentence under the heading "Intermittently Flooded Noncrop Areas" The sentence, "Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level" is in error in that it instructs the user to apply the product above high tide level. Floodwater mosquito larvae are found in areas between the low tide water line and the high tide water line.

This sentence is not relevant to the directions for use. Users of this product are familiar with floodwater mosquito treatments and this direction is out of line with common industry practice. I've enclosed labels for the other mosquito control products on the market for your reference.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing marphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides. Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides. After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormatities preventing flight and will not survive. Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and children addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

The information presented herein while flot guaranteed, is to the best of our knowledge-true and accurate. No warranty or guarantee, express or implied is made regarding the performance or stability of any product, since the manner of use and conditions of storage and handling are beyond our control.

0591-C:0192E

Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredient reaches the water where it is released from the sand.

ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 b. batch of ALTOSAND:

99 bs. washed, dry sand (20-45 mesh) 0.5 bs. Zoecon RF-437 (7.5 fluid oz./lb.) 0.5 bs. HiSil 233 (silicon dioxide) Small Funnel Cement Mixer

- Measure the time required for a level funnel full of sand to empty.
- Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fl.oz.) of Zoecon RF-437 onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
- Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
- 4. Stop the mixer and add 0.5 lbs. of HiSil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of HiSil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
- Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more HiS3 if it flows significantly slower and reduce the amount of HiS3 in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of 8 to 10 lbs. of the final mixture per acre, using standard granular dispersal equipment.

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

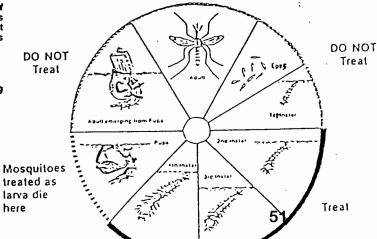
DO the following:

- DO treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
- DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
- DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
- DO monitor emerging adults at the treatment site. This
 absolutely requires that emergence traps be placed in treatment
 areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

- DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
- DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
- DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
- 4. DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Chemigation: Apply this product only through flood (basin), furrow or border imigation systems. Do not apply this product through any other type of imigation system. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacutrers or ther experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Flood (Basin), Furrow and Border Chemigation: Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop stucture or weir box to decrease potential for water source contamination from backflow if water flow stops.

Systems utilizing a pressurized water and pesticide injection system must meet the following requiremments:

- * The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- * The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where the pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

A pesticide surply falls is recommended for the application of product by chernigation.

Apply product continuously for the duration of water application.

0192E





PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Prevents emergence of adult fleas up to 8 weeks outdoors Controls pre-adult fleas (larvae) up to 8 weeks Biorational (approach to) flea control outdoors

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4-dodecadienoatel.....

INERT INGREDIENTS:

20.0% 80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION, TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS — Introduction: Zoecon RF-379 must be applied to 2nd, 3nd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Gulde to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/nectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- SHAKE WELL BEFORE USING. Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use clean equipment.
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
- Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispensal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch.

Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are, vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding without removal of livestock.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid Bacillus thuringiensis variety israeliensis (B.t.i.) formulations, such as TEKNAR HP-D (or its equivalent). The ratio of TEKNAR HP-D to RF-437 should range from 24:1 to 50:1 (volume/volume). For example, to prepare a 50:1 tank mix, add 1 gallon of RF-437 to 50 gallons of B.t.i. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [, such as Yardex,] should be used with RF-437 if a large population of fleas is present.

STORAGE & DISPOSAL: Store in cool place,

away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 U.S. Pats. 3,904,662;3,912,815 0891-D:0145E EPA Est © 1989 Zoecon Made in U.S.A.



PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

REGULATOR SR-20

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides. Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides. After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive. Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during arvee and pupal stages will give no measure of effect@gnass.

Refer to the following diagram and effectifiet in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

The information presented hereil, while not glarafiteed, is to the best of our knowledge rive and accurate. No warranty or guarantee, express or implied, is made regarding the performance or stability of any product, since the manner of use and conditions of storage and handling are beyond our control.

0591-C:0192E

Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredient reaches the water where it is released from the sand.

ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

99 lbs. washed, dry sand (20-45 mesh) 0.5 lbs. Zoecon RF-437 (7.5 fluid oz./lb.) 0.5 lbs. HiSil 233 (silicon dioxide) Small Funnel Cement Mixer

- Measure the time required for a level funnel full of sand to empty.
- Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fl.oz.) of Zoecon RF-437 onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
- Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
- 4. Stop the mixer and add 0.5 lbs. of HiSil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of HiSil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
- Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more HiSil if it flows significantly slower and reduce the amount of HiSil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of 8 to 10 lbs. of the final mixture per acre, using standard granular dispersal equipment.

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

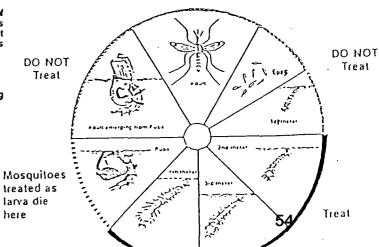
DO the following:

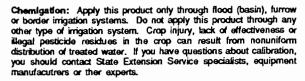
- DO treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
- DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
- DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
- DO monitor emerging adults at the treatment site. This
 absolutely requires that emergence traps be placed in treatment
 areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

- DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
- DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
- DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
- 4. DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or puppae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20





Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Flood (Basin), Furrow and Border Chemigation: Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop stucture or weir box to decrease potential for water source contamination from backflow if water flow stops.

Systems utilizing a pressurized water and pesticide injection system must meet the following requiremments:

- * The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- * The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where the pesticide distribution is adversely allected.
- Systems must use a finetering funtiff such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being titled with a system interlock.

A pesticide surply talk is recommended for the application of product by cheral-patien.

Apply product continuously for the duration of water application.



PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Prevents emergence of adult fleas up to 8 weeks outdoors Controls pre-adult fleas [larvae] up to 8 weeks Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4dodecadienoate].....

20.0% 80.0%

INERT INGREDIENTS:....

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITQ ABATEMENT AGENCY.







HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS — Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals, of spray solution per acre (4.7-46.8 liters/nectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- SHAKE WELL BEFORE USING. Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use clean equipment.
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
- Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispensal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch.

Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to imigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Imigated pastures may be treated after each flooding without removal of livestock.

CHEMIGATION: Refer to supplemental labeling entitled "Gulde to Product Application" for use directions for chemigation. Do not apply this product through any imigation system unless the supplemental labeling on chemigation is followed.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid Bacillus thuringiensis variety israeliensis (B.t.i.) formulations, such as TEKNAR HP-D (or its equivalent). The ratio of TEKNAR HP-O to RF-437 should range from 24:1 to 50:1 (volume/volume). For example, to prepare a 50:1 tank mix, add 1 gallon of RF-437 to 50 gallons of B.t.i. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [, such as Yardex,] should be used with RF-437 if a large population of fleas is present.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 U.S. Pats. 3,904,662;3,912,815 0891-D:0145E

EPA Est © 1989 Zoecon Made in U.S.A.





PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides. Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides. After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive. Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip countrs during larvale and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

The information presented herein while flot guillrafteed, is to the best of our knowledge true and accurate. No warranty or guarantee, express or implied is made regarding the performance or stability of any product, since the manner of use and conditions of storage and handling are beyond our control.

0591-C:0192E

Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredient reaches the water where it is released from the sand.

ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

99 bs. washed, dry sand (20-45 mesh) 0.5 bs. Zoecon RF-437 (7.5 fluid oz./b.) 0.5 bs. HiSil 233 (silicon dioxide) Small Funnel Cernent Mixer

- Measure the time required for a level funnel full of sand to empty.
- Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand. White the mixer is rotating, slowly pour 0.5 lbs. (7.5 fl.oz.) of Zoecon RF-437 onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
- Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
- Stop the mixer and add 0.5 lbs. of HiSil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of HiSil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
- Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more HiSil if it flows significantly slower and reduce the amount of HiSil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of 8 to 10 lbs. of the final mixture per acre, using standard granular dispersal equipment.

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

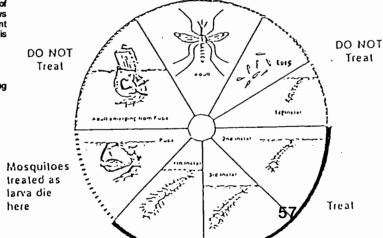
DO the following:

- DO treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
- DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
- DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
- DO monitor emerging adults at the treatment site. This
 absolutely requires that emergence traps be placed in treatment
 areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

- DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
- DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
- DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
- 4. DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Chemigation: Apply this product only through flood (basin), furrow or border irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacutrers or ther experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Flood (Basin), Furrow and Border Chemigation: Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop stucture or weir box to decrease potential for water source contamination from backflow if water flow stops.

Systems utilizing a pressurized water and pesticide injection system must meet the following requiremments:

- The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- * The pesticide injection pipeline must contain a functional, automatic quick-closing check valve to prevent the flow of fluld back toward the injection pump.
- * The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where the pesticide distribution is adversely allected.
- Systems must use a *Metering *funtp,* *soch as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

A pesticide supply talk is recommended for the application of product by chemispation.

Apply product continuously for the duration of water application.





PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Prevents emergence of adult fleas up to 8 weeks outdoors Controls pre-adult fleas [larvae] up to 8 weeks Biorational (approach to) flea control outdoors

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4dodecadienoate].....

INERT INGREDIENTS:.....

20.0% 80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDS TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Gulde to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals, of spray solution per acre (4.7-46.8 liters/nectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- 1. SHAKE WELL BEFORE USING. Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use clean equipment.
- 3. Partially fill spray tank with water, then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
- 4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch.

Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Impated pastures may be treated after each flooding without removal of livestock.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemication. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid Bacillus thuringiensis variety israeliensis (B.Li.) formulations, such as TEKNAR HP-D (or its equivalent). The ratio of TEKNAR HP-D to RF-437 should range from 24:1 to 50:1 (volume/volume). For example, to prepare a 50:1 tank mix, add 1 gallon of RF-437 to 50 gallons of B.t.i. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches,

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [, such as Yardex, should be used with RF-437 it a large population of fleas is present.

STORAGE & DISPOSAL: Store in cool place. away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Trip!e rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

> Zoecon Corporation A Sandoz Company 12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 U.S. Pats. 3,904,662;3,912,815 0891-D:0145E

water, food or feed by storage or disposal.

EPA Est @ 1989 Zoecon Made in U.S.A.

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides. Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides. After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive. Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip eouns during larval and pupal stages will give no measure of effectives.

Refer to the following dagram and checklist in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

The information presented herein, while not disripted, is to the best of our knowledge tue and accurate. Ne wassanty or guarantee, express or impfield, is made regarding the performance or stability of any product, since the manner of use and conditions of storage and handling are beyond our control.

0591-C:0192E

Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredient reaches the water where it is released from the sand.

ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 b. batch of ALTOSAND:

99 bs. washed, dry sand (20-45 mesh) 0.5 bs. Zoecon RF-437 (7.5 fluid oz./b.) 0.5 bs. HiSil 233 (silicon dioxide) Small Funnel Cement Mixer

- Measure the time required for a level funnel full of sand to empty.
- Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fl.oz.) of Zoecon RF-437 onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
- Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
- Stop the mixer and add 0.5 lbs. of HiSil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of HiSil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
- Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more HiSil if it flows significantly slower and reduce the amount of HiSil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of 8 to 10 lbs. of the final mixture per acre, using standard granular dispersal equipment.

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

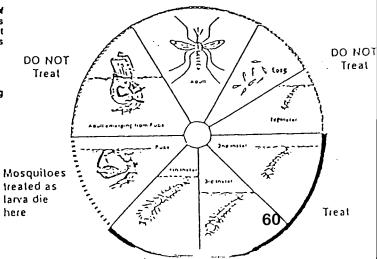
DO the following:

- DO treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
- DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
- DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
- DO monitor emerging adults at the treatment site. This
 absolutely requires that emergence traps be placed in treatment
 areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

- DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
- DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
- DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
- 4. DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or purpae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Chemigation: Apply this product only through flood (basin), furrow or border irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacutrers or ther experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Flood (Basin), Furrow and Border Chemigation: Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop stucture or weir box to decrease potential for water source contamination from backflow if water flow stops.

Systems utilizing a pressurized water and pesticide injection system must meet the following requiremments:

- The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- * The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the imigation system is either automically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where the pesticide distribution is adversely alreaded.
- Systems must use a metering punto, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticide and capable of basing ill ad with a system interlock.

A pesticide supply lark is recommended for the application of product by chemigations

Apply product continuously for the duration of water application.

0192E





PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Prevents emergence of adult fleas up to 8 weeks outdoors Controls pre-adult fleas (larvae) up to 8 weeks Biorational (approach to) flea control outdoors

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4-

20.0%

dodecadienoate|..... INERT INGREDIENTS:

80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eve irritation. Avoid contact with eyes or clothing. Wash thoroughly with scap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupel stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage. One-half to 5 gals, of spray solution per acre (4.7-46.8 liters/nectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- 1. SHAKE WELL BEFORE USING. Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
- Do not mix with oil; use clean equipment.
- 3. Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
- 4. Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch.

Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Imgated pastures may be treated after each flooding without removal of livestock.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemication. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid Bacillus thuringiensis variety israeliensis (B.Li.) formulations, such as TEKNAR HP-D (or its equivalent). The ratio of TEKNAR HP-D to RF-437 should range from 24:1 to 50:1 (volume/volume). For example, to prepare a 50:1 tank mix, add 1 gallon of RF-437 to 50 gallons of B.t.i. This tank mix can be applied to sites listed above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [, such as Yardex, should be used with RF-437 if a large population of flees

STORAGE & DISPOSAL: Store in cool place. away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

> Zoecon Corporation A Sandoz Company 12200 Denton Drive, Daflas, Texas 75234

EPA Reg. No. 2724-446 U.S. Pats, 3,904,662;3,912,815 0891-D:0145E

EPA Est © 1989 Zoecon Made in U.S.A.

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides. Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides. After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive. Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during larvid and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

The information presented herein, while not guaranteed, is to the best of our knowledge true and accurate. Ne warranty or guarantee, express or implied, is prade regarding the performance or stability of any product, since the manner of use and conditions of storage and handling are beyond our control.

0591-C:0192E

Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredient reaches the water where it is released from the sand.

ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

99 lbs. washed, dry sand (20-45 mesh) 0.5 lbs. Zoecon RF-437 (7.5 fluid oz./lb.) 0.5 lbs. HiSil 233 (silicon dioxide) Small Funnel Cement Mixer

- Measure the time required for a level funnel full of sand to empty.
- Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fl.oz.) of Zoecon RF-437 onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
- Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
- 4. Stop the mixer and add 0.5 bs. of HiSil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of HiSil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
- Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more HiSil if it flows significantly slower and reduce the amount of HiSil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of 8 to 10 lbs. of the final mixture per acre, using standard granular dispersal equipment.

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

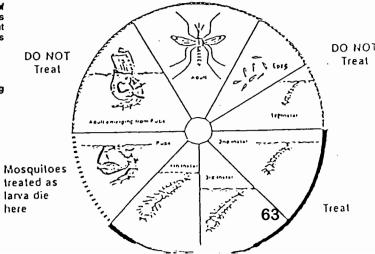
DO the following:

- DO treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
- DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
- DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
- DO monitor emerging adults at the treatment site. This
 absolutely requires that emergence traps be placed in treatment
 areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

- DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
- DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
- DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
- 4. DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or puppae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Chemigation: Apply this product only through flood (basin), furrow or border imigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacutrers or ther experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

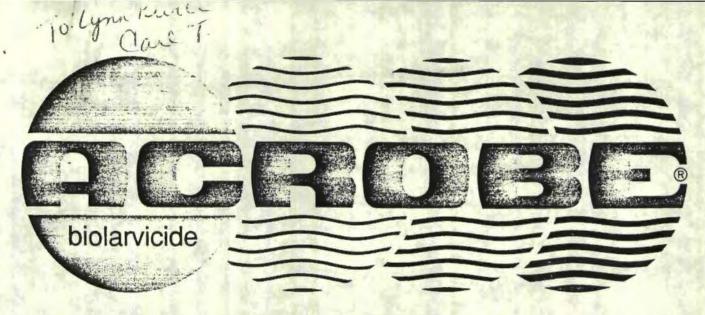
Flood (Basin), Furrow and Border Chemigation: Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop stucture or weir box to decrease potential for water source contamination from backflow if water flow stops.

Systems utilizing a pressurized water and pesticide injection system must meet the following requiremments:

- * The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- * The pesticide injection pipeline must contain a functional, automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the imigation system is either automically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch whick will-stop the water-pump motor when the water pressure declares to the point where the pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being filted with a system interlock.

A pesticide supply stank is recommended for the application of product by cherifigation.

Apply product continuously for the duration of water application.



High Potency Biological Larvicide Aqueous Suspension



ACROBE is a highly selective microbial insecticide effective against mosquitoes and blackflies in a variety of habitats.

ACTIVE INGREDIENT: Bacillus thuringiensis var. israelensis, 1200 International Units (ITU) per milligram*

*Equivalent to 4.84 billion ITU/gallon (1.28 billion ITU/liter).

EPA Reg. No. 62637-1-241

KEEP OUT OF PHACH OF CHILDREN GALLIONHUBBEGARGIONA

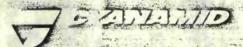
PRECAUCION AL USUARIO: Si usted no lee inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

STATEMENT OF PRACTICAL TREATMENT

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

See Additional Precautionary Statements on Next Page

In case of an emergency endangering life or property involving this product, call collect, day or night, Area Code 201-835-3100



Registered Trademark of American Cyanamid Company

10/90

PRECAUTIONARY STATEMENTS

CAUTION

Harmful if inhaled or absorbed through the skin. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

DIRECTIONS FOR USE

It is a violation of Federal law to apply this product in a manner inconsistent with its labeling.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Storage: Store in a cool dry place.

Pesticide Disposal: Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Triple rinse (or equivalent), then puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke. Do not reuse container.

ACROBE may be applied to any water sites except treated, finished drinking water reservoirs or drinking water receptacles. Since the active ingredient in ACROBE is exempt from the requirement of a tolerance on all raw agricultural commodities, applications to irrigation water are permissible.

DISCLAIMER

The label instructions for the use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the use or application of the product contrary to label instructions, all of which are beyond the control of American Cyanamid Company. All such risks shall be assumed by the user.

American Cyanamid Company warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use therein described when used in accordance with the directions for use, subject to the risks referred to above.

Any damages arising from a breach of this warranty shall be limited to direct damages and shall not include consequential commercial damages such as loss of profits or values or any other special or indirect damages. American Cyanamid Company makes no other express or implied warranty, including any other express or implied warranty of FITNESS or of MERCHANTABILITY.

MOSQUITOES:

Habitat	Rate Required for Control
Flood water, roadside ditches, irrigation ditches, rice fields, pastures, woodland pools,	
snow melt pools	0.25-0.50 pts./A
Tidal water, salt marshes, catch basins, storm water retention areas	0.50-1.0 pts./A
Polluted water (sewage lagoons, etc.) water with moderate organic matter, and water with a high concentration of suspended solids	1.0-2.0 pts./A

SPECIFIC APPLICATION INSTRUCTIONS

ACROBE may be applied in conventional aerial and ground application equipment with sufficient water to provide thorough coverage of the target area. The amount of water needed will be dependent on weather, type of spray equipment and mosquito habitat.

Ground applications should be made in 5-100 gallons per acre in conventional equipment. As low as one gallon per surface area can be used when the target area is open with a light vegetative cover. Aerial applications may be done diluted or undiluted. For undiluted applications, apply 0.20 to 2.0 pts./A of ACROBE through fixed wing aircraft or helicopters equipped with conventional boom and nozzles or rotary mist atomizers. For diluted applications, fill the mix tank or aircraft hopper with the appropriate volume of water and agitate before adding ACROBE. Maintain agitation during loading and spraying.

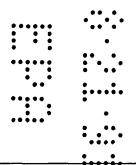
BLACKFLIES:

SUGGESTED	
CONCENTRATION	
RANGE	0.5-0.75 PPM
•	(0.5-0.75 mg/liter of stream water)

The concentration should be maintained in the stream for 15 minutes.

SPECIFIC APPLICATION INSTRUCTIONS

Apply with conventional ground and aerial application equipment or metered release systems from infested sites to achieve larvicidal concentrations. Insecticidal activity should occur within 24 hours. Reapply as needed. ACROBE may be applied undiluted through appropriate ULV application equipment.



Manufactured for: AMERICAN CYANAMID COMPANY • Agricultural Division • Vegetation and Pest Control, Wayne, NJ 07470 ©1990

SPECIMEN



AQUEOUS: SUSPENSION

Active Ingredient:

> KEEP OUT OF REACH OF CHILDREN

CAUTION

EPA Reg. No. 275-66 EPA Establishment No. 33762 IA-1 List No. 5605





Chemical & Agricultural Products Division Abbott Laboratories North Chicago, IL 60064 Vectobac®-12AS is a highly selective insecticide for use against mosquito, black fly and fungus gnat larvae.

APPLICATION DIRECTIONS

MOSQUITO Habitat	Suggested Range Rate*
(Such as the following examples):	
Irrigation ditches, roadside ditches, flood water, standing ponds, wood- land pools, snow melt pools, pastures, catch basins, storm water retention areas, tidal water, salt marshes and rice fields.	0.25 pt - 1 pt/acre
Polluted water (such as sewage lagoons, animal waste lagoons)	1 pt-2pts/acre

*Use higher rate in polluted water and when late 3rd and early 4th instar larvae predominate, mosquito populations are high, water is heavily polluted, and/or algae are abundant.

BLACK FLIES	Suggested
Habitat	Range Rate
Streams	0.5-25 mg/lite

"Use higher rate when stream contains high concentration of organic material, or dense aquatic vegetation.

GROUND AND AERIAL APPLICATION

Vectobac-12AS may be applied in conventional ground or aerial application equipment with quantities of water sufficient to provide uniform coverage of the target area. The amount of water needed per acre will depend on weather, spray equipment, and mosquito habitat characteristics. Do not mix more Vectobac-12AS than can be used in a 2-week period.

(=ppm)

For most ground spraying, apply in 5-100 gallons per acre using hand-pump, airblast, mist blower, etc., spray equipment.

For aerial application, Vectobac-12AS may be applied either undiluted or diluted with water. For undiluted applications, apply 0.25 to 2.0 pts/acre of Vectobac-12AS through fixed wing or helicopter aircraft equipped with either conventional boom and nozzle systems or rotary atomizers.

For diluted application, fill the mix tank or plane hopper with the desired quantity of water. Start the mechanical or hydraulic agitation to provide moderate circulation before adding the Vectobac-12AS. Maintain the agitation while loading or spraying. For all aerial applications, a droplet spectrum in the range of 50-100 microns (VMD) will produce best results.

Rinse and flush spray equipment thoroughly following each use.

For black fly aerial applications, Vectobac-12AS can be applied undiluted via fixed wing or helicopter aircraft equipped with either conventional boom and nozzle systems or open pipes. Rate of application will be determined by the stream discharge and the required amount of Vectobac-12AS necessary to maintain a 0.5-25 ppm concentration in the stream water. Vectobac-12AS can also be applied diluted with similar spray equipment. Do not mix more Vectobac-12AS than can be used in a 2-week period.

Fungus Gnat Habitat (All states except California)

Ornamental plants in greenhouse, on nursery plantings in potting soil mixtures with high percent peat.

*8 to 16 oz / 100 gallons =0.5 to 1 tsp/gallon **32 to 64 oz / 100 gallons=2 to 4 tsp/gallon

Suggested Range Rate

Light infestation (8 to 16: oz/100 gallons)* applied as a soil drench.

Heavy infestation (32 to

Heavy infestation (32 to 64 oz/100 gallons)**
applied as a soil drench.

Apply with adequate water by soil drench to sufficiently wet the: soil surface above and under greenhouse benches where larvaer are found. Areas under benches should be treated at high rate. as this is one of the primary breeding areas. Reapply as needed. Vectobac-12AS is a larvicide and will not control adult gnats. Fungus gnat larvae generally respond to Vectobac-12AS treatment within 24 hours following application.

Vectobac-12AS can be applied by injection into drip or overhead irrigation systems.

Vectobac-12AS is not phytotoxic to ornamental plant species. However, since all ornamental plant species have not been evaluated, sensitivity to Vectobac-12AS should be checked on several plants prior to wide scale usage.

SMALL QUANTITY DILUTION RATES FOR VECTOBAC-AS

Rates in Pints Per Acre	Gallons Spray Solution/Acre				
	10 Gal/A	25 Gal/A	. 50 (Gel/A	
	(Ounces	Needed Per Gallor	of Spray)		
0.25	0.2	0.1	0	.04	
0.5	. 0.4	0.2	0	.08	
1.0	0.8	0.33	. 0	.16	
~ ~			_	22 .	

PRECAUTIONARY STATEMENTS HAZARD TO HUMANS

As a precautionary measure in case of contact, flush eyes with plenty of water. In case of irritation, contact a physician.

DIRECTIONS FOR USE

General Classification

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal...

STORAGE: Store in a cool dry place.

PESTICIDE DISPOSAL: Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Do not reuse container.

NOTICE TO USER

Seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning the use of this phoduct other than as indicated on the label. User assumes all risk of use, storage or handling not in strict accordance with accompanying directions.



Introduction

VECTOBAC®-12AS biological larvicide is a highly selective insecticide for control of most species of mosquito, black fly and fungus gnat larvae. It contains spores and delta-endotoxic crystals of *Bacillus thuringiensis*, Serotype H-14 (*B.t.* H-14). Activity against larvae is dependent upon the delta-endotoxin crystal. *B.t.* H-14 is well-suited for use in integrated pest management (IPM) control programs and environmentally sensitive areas, since toxicity testing has not indicated any harmful effect on mammals (and, by analogy, humans), birds, fish, or aquatic invertebrate predators

and parasites. The rapid rate of kill, typically within 24 hours, is in harmony with the inspection and evaluation programs currently used by most mosquito and black fly control operators.

The fermentation and formulation expertise acquired by Abbott Laboratories (North Chicago, Illinois, USA) in developing *B.t.* products for agriculture and forestry is being applied to the production of VECTOBAC brand *B.t.* H-14, thereby insuring high quality, stability, and performance.

ormulation

VECTOBAC-12AS is an aqueous suspension of *Bacillus thuringiensis*, Serotype H-14, containing 1200 International Toxic Units, (ITU) per milligram (equivalent to 4.84 billion ITU per gallon; 1.279 billion ITU per liter).

This formulation has been designed to be conveniently used in conventional ground or aerial application equipment. Flow properties also enable accurate metering into stream waters for black fly control.

Selectivity

The insecticidal activity of VECTOBAC-12AS is primarily limited to larvae of mosquitoes (Family Culicidae), black flies (Family Simuliidae) and fungus gnats (Families Sciaridae, Phoridae and Mycetophilidae). Tests have been conducted to determine the safety of *B.t.* H-14 to non-target species of

vertebrates and invertebrates. Results of these tests have shown that *B.t.* H-14 provides excellent control of larvae, while demonstrating no harmful effects on mammals (and, by analogy, humans), fish and most non-target aquatic organisms and beneficial insects.

Recommendations For Use

Recommended application rates for mosquito larvae range from 0.25 pint-1 quart VECTOBAC-12AS per acre, depending upon habitat and larval stage. Rates for control of black fly larvae range from 0.5 to 25 mg/liter

of stream water with higher rates being used in streams containing high concentrations of organic material.

Rates for the control of fungus gnats, ranges from 8 to 64 oz./100 gallons.

Ground and Aerial Application

VECTOBAC-12AS may be applied by either ground or aerial application equipment. For most ground spraying, apply in sufficient water (5-100 gallons per acre) to provide uniform coverage of the target area.

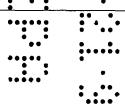
For aerial application, VECTOBAC-12AS maybe applied either undiluted or diluted with water. (See label, opposite side, for

details.) Product containers should be shaken well before usage and proper agitation should be maintained in spray tank during application. No more VECTOBAC-12AS should be mixed than can be used in a 2-week period.

Best control of fungus gnatseis achieved when applied as a seil drench.

Package Size Availability

VECTOBAC-12AS is available in 5 gallon units (2 x 2.5 gallon plastic containers), 30 and 55 gallon drums and bulk tanker trucks (4,000-6,000 gallons).





ABBOTT LABORATORIES

Chemical and Agricultural Products Division North Chicago, IL 60064 For information call: 1-800-323-9597 In Illinois 1-800-642-1959 EASTERN REGIONAL OFFICE 310 S. Dillard St. Suite 410 Winter Garden, FL 32787 (305) 656-8779 WESTERN REGIONAL OFFICE 1540 East Shaw** Suite 123 Fresno, CA 93710 (209) 227-2926

insecticide

FOR CONTROL OF MOSQUITO AND MIDGE LARVAE

Temephos (O,O'-(thiodi-4,1-phenylene) O,O,O',O'-tetramethyl phosphorothioate) Inert Ingredients . . .

Total 100%

EPA Reg. No.241-174AA

EPA Est. No. 8329-1L-01

KEEP OUT OF REACH OF SPECIMEN CHILDREN

See Below For Additional Precautionary Statements

STATEMENT OF PRACTICAL TREATMENT

If in Eyes: Flush with plenty of water. Get medical attention.

If on Skin: Wash with plenty of soap and water after handling. Get medical attention if irritation persists.

NOTE TO PHYSICIANS: This product may cause cholinesterase inhibition. Atropine is antidotal. Pralidoxime chloride (2-PAM; PROTOPAM chloride) may be effective as an adjunct to atropine.

PRECAUCION

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC **ANIMALS**

CAUTION

Avoid breathing dust. Avoid contact with skin. Wash thoroughly with soap and water after handling. Do not contaminate food or feed products.

ENVIRONMENTAL HAZARDS

This product is toxic to birds and fish. Fish and other aquatic organisms in water treated with this product may be killed. You must consult your State Fish and Game Agency before applying this product to waters or wetlands. Do not contaminate water by cleaning of equipment or disposing of wastes.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

GENERAL: Consult Federal. State or local disposal authorities for approved alternative procedures.

Registered trademark of American Cyanamid Company

For control of mosquito and midge larvae, apply ABATE 1-SG as specified below:

Areas of Treatment

Lbs. Per Acre

Standing water, shallow ponds, lakes, woodland pools, catch basins

5-10

Tidal water, marshes, swamps and waters high in organic content

10-20

May be applied as a spot treatment to catch basins and similar areas where mosquitoes may breed.

Apply uniformly and repeat applications as necessary. Do not use on crops used for food, forage or pasture.

The label instructions for the use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions. tions, presence of other materials, or the use or application of the product contrary to label instructions, all of which are beyond the control of American Cyanamid Company. All such risks shall be

American Cyanamid Company warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use therein described when used in accordance with the directions for use, subject to the risks referred to above.

Any damages arising from a breach of this warranty shall be limited to direct damages and shall not include consequential commercial damages such as loss of profits or any other special or indirect damages indirect damages.

American Cyanamid Company makes no other expressor implied warranty, including any other express or implied warranty of FITNESS or of MERCHANTABILITY.

In case of an emergency endangering life or property involving this product, call collect, day or night, Area Code 201-835-3100.

ENDANGERED SPECIES RESTRICTIONS

Before using this product to control or eradicate mosquito larvae in a county listed below, you must contact the Endangered Species Specialist in the Regional/Field Office of the U.S. Fish and Wildlife Service (FWS) indicated below. You must provide FWS with your name and phone number, the product you intend to use, and the specific location in which you intend to use it. The U.S. Fish and Wildlife Service will inform you whether your proposed use is in the range of endangered species. Use of this product in the range of endangered species, as defined for you by FWS, is prohibited.

Contact FWS Field Offices at the following numbers:

ALABAMA (Jackson, Mississippi, 601-965-4900) Colbert, Greene, Jackson, Jefferson, Lamar, Lauderdale, Limestone, Madison, Marshall, Morgan, Pickens, and Sumter

ARIZONA (Phoenix, Arizona, 602-261-4720) Graham, Lapaz, Mohave, Pima, Pinal, Santa Cruz, and Yuma

ARKANSAS (Jackson, Mississippi, 601-965-4900)

Benton, Clark, Clay, Cross, Lawrence, Lee, Poinsett, Polk, Randolph, Sharp, and St. Francis

CALIFORNIA (Sacramento, California, 916-978-4613)
Alameda, Colusa, Contra Costra, Humbolt, Imperial, Inyo, Los
Angeles, Marin, Merced, Modoc, Mono, Monterey, Napa, Orange,
Riverside, San Bernardino, San Diego, San Luis Obispo, San
Mateo, Santa Barbara, Santa Clara, Solano, Sonoma,
Stanislaus, Sutter, and Ventura

DISTRICT OF COLUMBIA (Annapolis, Maryland, 301-269-5448) Rock Creek Park

FLORIDA (Jacksonville, Florida, 904-791-2580)

Alachua, Baker, Bradford, Brevard, Broward, Charlotte, Citrus, Clay, Collier, Columbia, Dade, De Soto, Dixie, Duval, Flagler, Gadsden, Gilchrist, Glades, Hardee, Hendry, Hernando, Highlands, Hillsborough, Indian River, Jefferson, Lafayette, Lake, Lee, Leon, Levy, Madison, Manatee, Marion, Martin, Monroe, Nassau, Okaloona, Okeechobee, Orange, Osceola, Palm Beach, Pasco, Pinellas, Polk, Putnam, St. Johns, St. Lucie, Sarasota, Seminole, Sumter, Suwanee, Taylor, Union, Volusia, Wakulla, and Walton

GEORGIA (Jacksonville, Florida, 904-791-2580) Brantley, Bryan, Bulloch, Burke, Camden, Candler, Catoosa, Charlton, Chatham, Effingham, Emanuel, Evans, Glasock, Glynn, Jefferson, Jenkins, Johnson, Liberty, Long, McIntosh, Pierce, Richmond, Screven, Ware, Washington, and Wayne

HAWAII (Honolulu, Hawaii, 808-546-5608) Islands of Hawaii, Kauai, Maui, Molokai, Niihau, and Oahu

IDAHO (Boise, Idaho, 208-334-1806, Ext. 16)

Caribou, Bear Lake, and Bonneville ILLINOIS (Rock Island, Illinois, 309-793-5800)

Gallatin, Henderson, Jo Daviess, Massac, Mercer, Pike, Pulaski, Rock Island

INDIANA (Bloomington, Indiana, 812-334-4261) DeKalb and Posev

IOWA (St.Paul, Minnesota, 612-725-7131)

Allakamee, Clayton, Clinton, Des Moines, Dubuque, Fayette, Jackson, Louisa, Muscatine, and Scott

KANSAS (Grand Island, Nebraska, 308-381-5571) Clark, Comanche, Meade, and Stafford

KENTUCKY (Asheville, North Carolina, 704-259-0321)
Ballard, Butler, Edmonson, Green, Hart, Jackson, Laurel, Livingston, Marshall, McCracken, McCreary, Pulaski, Rockcastle,

Warren, and Wayne

MARYLAND (Annapolis, Maryland, 301-269-5448) Harford

MINNESOTA (St. Paul, Minnesota, 612-725-7131) Houston and Washington

MISSISSIPPI (Jackson, Mississippi, 601-965-4900) Claiborne, Copiah, Hinds, Itawamba, Jackson, Lowndes, Monroe,

MISSOURI (Columbia, Missouri, 314-875-5374) Barry, Benton, Bollinger, Butler, Camden, Cedar, Christian, Cole. Dallas, Franklin, Gasconade, Greene, Hickory, Jaspar, Jefferson, Lawrence, Massac, Miller, Newton, Osage, Polk, Ralls, Ripley, St. Clair, St. Louis, Stone, and Wayne

NEBRASKA (Grand Island, Nebraska, 308-381-5571) Boyd, Brown, Buffalo, Butler, Cass, Cedar, Colfax, Dawson, Dodge, Douglas, Hall, Hamilton, Holt, Howard, Kearney, Keya Paha, Knox, Merrick, Nance, Phelps, Platte, Polk, Rock, Sarpy,

NEVADA (Reno, Nevada, 702-784-5227) Clark, Lincoln, Nye, and White Plain

NEW MEXICO (Albuquerque, New Mexico, 505-566-2323) Chaves, Eddy, and Soccoro

NORTH CAROLINA (Asheville, North Carolina, 704-259-0321) Edgecombe, Macon, Nash, Pitt, and Swain NORTH DAKOTA (Grand Island, Nebraska, 308-381-5571)

Burleigh, Emmons, McKensie, Mclean, Mercer, Morton, and

OHIO (Columbus, Ohio, 614-231-3416) Pickaway, Washington, and Williams

OKLAHOMA (Tulsa, Oklahoma, 918-581-7458) McCurtain and Pushmataha

OREGON (Olympia, Washington, 206-753-9444) Lake

SOUTH CAROLINA (Asheville, North Carolina, 704-259-0321) Aiken, Barnwell, Beaufort, Berkeley, Charleston, Colleton, Dorchester, Georgetown, Hampton, Horry, Jasper, and Marion SOUTH DAKOTA (Pierre, South Dakota, 605-224-8692) Hughes and Yankton

TENNESSEE (Asheville, North Carolina, 704-259-0321)
Bedford, Blount, Bradley, Claiborne, Cumberland, Davison, Decatur, Franklin, Hamilton, Hancock, Hardin, Hawkins, Hickman. Knox, Lawrence, Lincoln, Loudon, Marion, Marshall, Maury, Meigs, Monroe, Morgan, Polk, Rhea, Roane, Scott, Sequatchie, Smith, Sullivan, Trousdale, Wayne, and Williamson

TEXAS (Texas, 713-229-3681 or 817-334-2961)
Brewster, Comal, Hays, Jeff Davis, Menard, Pecos, and Reeves

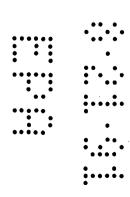
UTAH (Salt Lake City, Utah, 801-524-4430) Utah and Washington

VIRGINIA (Annapolis, Maryland, 301-269-5448) Augusta, Lee, Russell, Scott, Smyth, Tazewell, Washington, and Wise

WISCONSIN (Green Bay, Wisconsin, 414-465-2682) Crawford, Grant, Iowa, Pierce, Polk, Richland, St. Croix, and

WYOMING (Helena, Montana, 406-449-5225) Lincoln and Sublette







insecticide

FOR CONTROL OF MOSQUITO AND MIDGE LARVAE

Total 100%

EPA Reg. No.241-151AA

SPECIMEN

EPA Est. No. 8329-1L-01

KEEP OUT OF REACH OF CHILDREN CALITION

See Below For Additional Precautionary Statements

STATEMENT OF PRACTICAL TREATMENT

If in Eyes: Flush with plenty of water. Get medical attention.

If on Skin: Wash with plenty of soap and water after handling. Get medical attention if irritation persists.

NOTE TO PHYSICIANS: This product may cause cholinesterase inhibition. Atropine is antidotal. Pralidoxime chloride (2-PAM; PROTOPAM chloride) may be effective as an adjunct to atropine.

PRECAUCION

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Avoid breathing dust. May cause eye irritation. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Do not contaminate food or feed products.

ENVIRONMENTAL HAZARDS

This product is toxic to birds and fish. Fish and other aquatic organisms in water treated with this product may be killed. You must consult your State Fish and Game Agency before applying this product to waters or wetlands. Do not contaminate water by cleaning of equipment or disposing of wastes.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

GENERAL: Consult Federal, State or local disposal authorities for approved alternative procedures.

In case of an emergency endangering life or property involving this product, call collect, day or night, Area Code 201-835-3100.

Areas of Treatment	Insects (Larvae)	Lbs./ Acre	Application
Standing water, shallow ponds, lakes, woodland pools, catch basins	Mosquito and Midge	2.5-5	Apply uniformly by air or ground equipment. Repeat appli- cations as necessary.
Tidal waters, marshes, swamps and water high in organic content		10	
Highly polluted waters		25	
Marsh lands, margins of streams, intertidal zones of sandy beaches	Gnat Punkie Sandfly	5-10	Apply uniformly by ground or air equipment. Repeat appli- cations as necessary.

Do not use on crops used for food, forage or pasture.

DISCLAIMER

The label instructions for the use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the use of application of the product contrary to label instructions, all of which are beyond the control of American Cyanamid Company. All such risks shall be assumed by the user.

American Cyanamid Company warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use therein described when used in accordance with the directions for use subject to the risks referred to above

Any damages arising from a breach of this warranty shall be limited to direct damages and shall not include consequentar commercial damages such as loss of profits or values or any other special or indirect damages.

American Cyanamid Company makes no other expects or implied warranty, including any other express or implied warranty of FITNESS or of MERCHANTABILITY.

24680-20

Registered trademark of American Cyanamid Company

ENDANGERED SPECIES RESTRICTIONS

Before using this product to control or eradicate mosquito larvae in a county listed below, you must contact the Endangered Species Specialist in the Regional/Field Office of the U.S. Fish and Wildlife Service (FWS) indicated below. You must provide FWS with your name and phone number, the product you intend to use, and the specific location in which you intend to use it. The U.S. Fish and Wildlife Service will inform you whether your proposed use is in the range of endangered species. Use of this product in the range of endangered species, as defined for you by FWS, is prohibited.

Contact FWS Field Offices at the following numbers:

ALABAMA (Jackson, Mississippi, 601-965-4900) Colbert, Greene, Jackson, Jefferson, Lamar, Lauderdale, Limestone, Madison, Marshall, Morgan, Pickens, and Sumter

ARIZONA (Phoenix, Arizona, 602-261-4720) Graham, Lapaz, Mohave, Pima, Pinal, Santa Cruz, and Yuma

ARKANSAS (Jackson, Mississippi, 601-965-4900) Benton, Clark, Clay, Cross, Lawrence, Lee, Poinsett, Polk, Randolph, Sharp, and St. Francis

CALIFORNIA (Sacramento, California, 916-978-4613)
Alameda. Colusa, Contra Costra, Humbolt, Imperial, Inyo, Los
Angeles, Marin, Merced, Modoc, Mono, Monterey, Napa, Orange,
Riverside, San Bernardino, San Diego, San Luis Obispo, San
Mateo, Santa Barbara, Santa Clara, Solano, Sonoma,
Stanislaus, Sutter, and Ventura

DISTRICT OF COLUMBIA (Annapolis, Maryland, 301-269-5448) Rock Creek Park

FLORIDA (Jacksonville, Florida, 904-791-2580)

Alachua, Baker, Bradford, Brevard, Broward, Charlotte, Citrus, Clay, Collier, Columbia, Dade, De Soto, Dixie, Duval, Flagler, Gadsden, Gilchrist, Glades, Hardee, Hendry, Hernando, Highlands, Hillsborough, Indian River, Jefferson, Lafayette, Lake, Lee, Leon, Levy, Madison, Manatee, Marion, Martin, Monroe, Nassau, Okaloona, Okeechobee, Orange, Osceola, Palm Beach, Pasco, Pinellas, Polk, Putnam, St. Johns, St. Lucie, Sarasota, Seminole, Sumter, Suwanee, Taylor, Union, Volusia, Wakulla, and Walton

GEORGIA (Jacksonville, Florida, 904-791-2580) Brantley, Bryan, Bulloch, Burke, Camden, Candler, Catoosa, Charlton, Chatham. Effingham. Emanuel, Evans. Glasock, Glynn, Jefferson, Jenkins, Johnson, Liberty, Long, McIntosh, Pierce, Richmond, Screven, Ware, Washington, and Wayne

HAWAII (Honolulu, Hawaii, 808-546-5608) Islands of Hawaii, Kauai, Maui, Molokai, Niihau, and Oahu

IDAHO (Boise, Idaho, 208-334-1806, Ext. 16) Caribou, Bear Lake, and Bonneville

ILLINOIS (Rock Island, Illinois, 309-793-5800)
Gallatin, Henderson, Jo Daviess, Massac, Mercer, Pike, Pulaski,

INDIANA (Bloomington, Indiana, 812-334-4261) DeKalb and Posey

IOWA (St.Paul, Minnesota, 612-725-7131)
Allakamee, Clayton, Clinton, Des Moines, Dubuque, Fayette, Jackson, Louisa, Muscatine, and Scott

KANSAS (Grand Island, Nebraska, 308-381-5571) Clark, Comanche, Meade, and Stafford KENTUCKY (Asheville, North Carolina, 704-259-0321)
Ballard, Butler, Edmonson, Green, Hart, Jackson, Laurel,
Livingston, Marshall, McCracken, McCreary, Pulaski, Rockcastle,
Warren, and Wayne

MARYLAND (Annapolis, Maryland, 301-269-5448)
Harford

MINNESOTA (St. Paul, Minnesota, 612-725-7131) Houston and Washington

MISSISSIPPI (Jackson, Mississippi, 601-965-4900) Claiborne, Copiah, Hinds, Itawamba, Jackson, Lowndes, Monroe, and Noxubee

MISSOURI (Columbia, Missouri, 314-875-5374)
Barry, Benton, Bollinger, Butler, Camden, Cedar, Christian, Cole, Dallas, Franklin, Gasconade, Greene, Hickory, Jaspar, Jefferson, Lawrence, Massac, Miller, Newton, Osage, Polk, Ralls, Ripley, St. Clair, St. Louis, Stone, and Wayne

NEBRASKA (Grand Island, Nebraska, 308-381-5571) Boyd, Brown, Buffalo, Butler, Cass, Cedar, Colfax, Dawson, Dodge, Douglas, Hall, Hamilton, Holt, Howard, Kearney, Keya Paha, Knox, Merrick, Nance, Phelps, Platte, Polk, Rock, Sarpy, and Saunders

NEVADA (Reno, Nevada, 702-784-5227) Clark, Lincoln, Nye, and White Plain

NEW MEXICO (Albuquerque, New Mexico, 505-566-2323) Chaves, Eddy. and Soccoro

NORTH CAROLINA (Asheville, North Carolina, 704-259-0321) Edgecombe, Macon, Nash, Pitt, and Swain

NORTH DAKOTA (Grand Island, Nebraska, 308-381-5571) Burleigh, Emmons, McKensie, Mclean, Mercer, Morton, and Oliver

OHIO (Columbus, Ohio, 614-231-3416) Pickaway, Washington, and Williams

OKLAHOMA (Tulsa, Oklahoma, 918-581-7458) McCurtain and Pushmataha

OREGON (Olympia, Washington, 206-753-9444)

SOUTH CAROLINA (Asheville, North Carolina, 704-259-0321) Aiken, Barnwell, Beaufort, Berkeley, Charleston, Colleton, Dorchester, Georgetown, Hampton, Horry, Jasper, and Marion

SOUTH DAKOTA (Pierre, South Dakota, 605-224-8692) Hughes and Yankton

TENNESSEE (Asheville, North Carolina, 704-259-0321)
Bedford, Blount, Bradley, Claiborne, Cumberland, Davison, Decatur, Franklin, Hamilton, Hancock, Hardin, Hawkins, Hickman, Knox, Lawrence, Lincoln, Loudon, Marion, Marshall, Maury, Meigs, Monroe, Morgan, Polk, Rhea, Roane, Scott, Sequatchie, Smith, Sullivan, Trousdale, Wayne, and Williamson

TEXAS (Texas, 713-229-3681 or 817-334-2961)
Brewster, Comal, Hays, Jeff Davis, Menard, Pecos, and Reeves
UTAH (Salt Lake City, Utah, 801-524-4430)

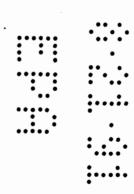
UTAH (Salt Lake City, Utah, 801-524-4430)
Utah and Washington

VIRGINIA (Annapolis, Maryland, 301-269-5448) Augusta, Lee, Russell, Scott, Smyth, Tazewell, Washington, and Wise

WISCONSIN (Green Bay, Wisconsin, 414-465-2682) Crawford, Grant, Iowa, Pierce, Polk, Richland, St. Croix, and Vernon

WYOMING (Helena, Montana, 406-449-5225) Lincoln and Sublette







insecticide

FOR CONTROL OF MOSQUITO AND MIDGE LARVAE

Active Ingredient:	
Temephos (O,O'-(thiodi-4,1-phenylene) O,O,O',O'-tetramethyl phosphorothioate)	5%
Inert Ingredients	95%
Total	
EDA D N 044 450 A A	EL 04

EPA Reg. No. 241-150AA

EPA Est. No. 6720-FL-01

KEEP OUT OF REACH OF

PECIMEN PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

STATEMENT OF PRACTICAL TREATMENT

Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes.

If Swallowed: Drink promptly a large quantity of milk, egg white, gelatin solution, or, if these are not available, large quantities of water. Avoid alcohol. Do not induce vomiting or give anything by mouth to an unconscious person.

NOTE TO PHYSICIANS: This product may cause cholinesterase inhibition. Atropine is antidotal. Pralidoxime chloride (2-PAM; PROTOPAM chloride) may be effective as an adjunct to atropine.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC **ANIMALS**

In case of an emergency endangering life or property involving this product, call collect, day or night, Area Code 201-835-3100.

DANGER

Corrosive: Causes irreversible eye damage. Do not get in eyes or on clothing. Wear goggles. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before

ENVIRONMENTAL HAZARDS

This product is toxic to birds and fish. Fish and other aquatic organisms in water treated with this product may be killed. You must consult your State Fish and Game Agency before applying this product to waters or wetlands. Do not contaminate water by cleaning of equipment or disposing of wastes.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

GENERAL: Consult Federal, State or local disposal authorities for approved alternative procedures.

For control of mosquito and midge larvae, apply ABATE 5-CG as specified below:

Areas of Treatment	Lbs. Per Acre
Standing water, shallow ponds, lakes, woodland pools	2
Tidal waters, marshes, swamps and waters high in organic content	4
Highly-polluted waters	10
May be emplied as a cost treatment to get	ab basins and similar

May be applied as a spot treatment to catch basins and similar areas where mosquitoes may breed.

Apply uniformly and repeat applications as necessary. Do not use on crops used for food, forage or pasture.

DISCLAIMER

The label instructions for the use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the use or application of the product contrary to label instructions, all of which are beyond the control of American Cyanamid Company. All such risks shall be assumed by the user.

American Cyanamid Company warrants only that the material contained herein conforms to the classificated description on the label and is reasonably fit for the use therein described when used in accordance with the directions for use, subject to the risks referred to show the contained of the c to above.

Any damages arising from a breach of this warranty shall be limited to direct damages and shall not include consequential commercial damages such as loss of profits gravatures or any other special or indirect damages.

American Cyanamid Company makes no other express or implied warranty, including any other express or implied warranty of FIT-NESS or of MERCHANTABILITY.

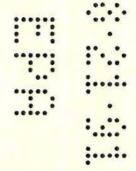


Wayne, NJ 07470

Registered trademark of American Cyanamid Company

Net Contents: 25 lbs.

C1988



insecticide

FOR CONTROL OF MOSQUITO LARVAE

Active Ingredient:

Temephos (0,0'-(thiodi-4,1-phenylene) 0,0,0',0'-tetramethyl phosphorothioate)

44.6% 55.4%

Total 100.0%

(1 gallon contains 4 lbs. of Temephos) *contains petroleum distillate

SPECIMEN EPA Reg. No. 241-132AA

EPA Est. No. 8590-PA-1

KEEP OUT OF REACH OF CHILDREN WARNING/AVISO

PRECAUCION AL USUARIO: Si usted no lee inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

See Side Panel For Additional Precautionary Statements

STATEMENT OF PRACTICAL TREATMENT

If Swallowed: Do not induce vomiting. Get medical attention.

If in Eyes: Flush with plenty of water. Get medical attention.

If on Skin: Wash with plenty of soap and water after handling. Get medical attention if irritation persists.

NOTE TO PHYSICIANS: This product may cause cholinesterase inhibition. Atropine is antidotal. Pralidoxime chloride (2-PAM; PROTOPAM chloride) may be effective as an adjunct to atropine.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING

Harmful if swallowed or absorbed through skin. Causes skin and eye irritation. Wash thoroughly with soap and water after handling. Avoid breathing spray mist. Do not contaminate food or feed products.

ENVIRONMENTAL HAZARDS

This product is toxic to birds and fish. Fish and other aquatic organisms in water treated with this product may be killed. You must consult your State Fish and Game Agency before applying this product to waters or wetlands. Do not contaminate water by cleaning of equipment or disposing of wastes. This product is toxic to bees and should not be applied when bees are actively visiting the treatment area.

STORAGE AND DISPOSAL

PROHIBITIONS: Do Not contaminate water, food, or feed by storage or disposal. Do not use or store near heat or open flame.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by State and local authorities by burning. If burned stay out of smoke.

GENERAL: Consult Federal, State or local disposal authorities for approved alternative procedures.

*Registered trademark of American Cyanamid Company

Net Contents: 2.5 Gallons

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

MOSQUITO LARVAE CONTROL

Apply ABATE 4-E as a uniform spray in sufficient water for good coverage at the rate of 0.5 to 1.5 fluid ounces per acre. Apply to standing water, moist areas, woodland pools, shallow ponds, around the edges of lakes, swamps, marshes, tidal waters, and catch basins. Use 0.5 fluid ounces per acre in clean open water and 1.0 to 1.5 fluid ounces per acre in waters high in organic matter content. The higher rate should be used in areas known to have organophosphate resistant mosquitoes. Repeat applications as necessary.

Do not use on crops used for food, forage or pasture.

DISCLAIMER

The label instructions for the use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the use or application of the product contrary to label instructions, all of which are beyond the control of American Cyanamid Company. All such risks shall be assumed by the user.

American Cyanamid Company warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use the directions for use, subject to the risks referred to above.

Any damages arising from a breach of this wartanty shall be limited to direct damages and shall not include consequential commercial damages such as loss of profits or values of any other special or indirect damages.

American Cyanamid Company makes no other express or implied warranty, including any other express or implied warranty of FITNESS or of MERCHANTABILITY.

In case of an emergency endangering life or property involving this product, call collect, day or night, Area Code 201-835-3100.

ENDANGERED SPECIES RESTRICTIONS

Before using this product to control or eradicate mosquito larvae in a county listed below, you must contact the Endangered Species Specialist in the Regional/Field Office of the U.S. Fish and Wildlife Service (FWS) indicated below. You must provide FWS with your name and phone number, the product you intend to use, and the specific location in which you intend to use it. The U.S. Fish and Wildlife Service will inform you whether your proposed use is in the range of endangered species. Use of this product in the range of endangered species, as defined for you by FWS, is prohibited.

Contact FWS Field Offices at the following numbers:

ALABAMA (Jackson, Mississippi, 601-965-4900) Colbert, Greene, Jackson, Jefferson, Lamar, Lauderdale, Limestone, Madison, Marshall, Morgan, Pickens, and Sumter

ARIZONA (Phoenix, Arizona, 602-261-4720) Graham, Lapaz, Mohave, Pima, Pinal, Santa Cruz, and Yuma ARKANSAS (Jackson, Mississippi, 601-965-4900) Benton, Clark, Clay, Cross, Lawrence, Lee, Poinsett, Polk, Randolph, Sharp, and St. Francis

CALIFORNIA (Sacramento, California, 916-978-4613)
Alameda, Colusa, Contra Costra, Humbolt, Imperial, Inyo, Los
Angeles, Marin, Merced, Modoc, Mono, Monterey, Napa, Orange,
Riverside, San Bernardino, San Diego, San Luis Obispo, San
Mateo, Santa Barbara, Santa Clara, Solano, Sonoma,
Stanislaus, Sutter, and Ventura

DISTRICT OF COLUMBIA (Annapolis, Maryland, 301-269-5448) Rock Creek Park

FLORIDA (Jacksonville, Florida, 904-791-2580)
Alachua, Baker, Bradford, Brevard, Broward, Charlotte, Citrus, Clay, Collier, Columbia, Dade, De Soto, Dixie, Duval, Flagler, Gadsden, Gilchrist, Glades, Hardee, Hendry, Hernando, Highlands, Hillsborough, Indian River, Jefferson, Lafayette, Lake, Lee, Leon, Levy, Madison, Manatee, Marion, Martin, Monroe, Nassau, Okaloona, Okeechobee, Orange, Osceola, Palm Beach, Pasco, Pinellas, Polk, Putnam, St. Johns, St. Lucie, Sarasota, Seminole, Sumter, Suwanee, Taylor, Union, Volusia, Wakulla, and Walton

GEORGIA (Jacksonville, Florida, 904-791-2580)
Brantley, Bryan, Bulloch, Burke, Camden, Candler, Catoosa, Charlton, Chatham, Effingham, Emanuel. Evans, Glasock, Glynn, Jefferson, Jenkins, Johnson, Liberty, Long, McIntosh, Pierce, Richmond, Screven, Ware, Washington, and Wayne

HAWAII (Honolulu, Hawaii, 808-546-5608) Islands of Hawaii, Kauai, Maui, Molokai, Niihau, and Oahu IDAHO (Boise, Idaho, 208-334-1806, Ext. 16) Caribou, Bear Lake, and Bonneville

ILLINOIS (Rock Island, Illinois, 309-793-5800)
Gallatin, Henderson, Jo Daviess, Massac, Mercer, Pike, Pulaski, Rock Island

INDIANA (Bloomington, Indiana, 812-334-4251) DeKalb and Posey

IOWA (St.Paul, Minnesota, 612-725-7131)
Allakamee, Clayton, Clinton, Des Moines, Dubuque, Fayette, Jackson, Louisa, Muscatine, and Scott

KANSAS (Grand Island, Nebraska, 308-381-5571) Clark, Comanche, Meade, and Stafford KENTUCKY (Asheville, North Carolina, 704-259-0321)
Ballard, Butler, Edmonson, Green, Hart, Jackson, Laurel,
Livingston, Marshall, McCracken, McCreary, Pulaski, Rockcastle,
Warren, and Wayne

MARYLAND (Annapolis, Maryland, 301-269-5448)
Harford

MINNESOTA (St. Paul, Minnesota, 612-725-7131) Houston and Washington

MISSISSIPPI (Jackson, Mississippi, 601-965-4900) Claiborne, Copiah, Hinds, Itawamba, Jackson, Lowndes, Monroe, and Noxubee

MISSOURI (Columbia, Missouri, 314-875-5374)

Barry, Benton, Bollinger, Butler, Camden, Cedar, Christian, Cole, Dallas, Franklin, Gasconade, Greene, Hickory, Jaspar, Jefferson, Lawrence, Massac, Miller, Newton, Osage, Polk, Ralls, Ripley, St. Clair, St. Louis, Stone, and Wayne

NEBRASKA (Grand Island, Nebraska, 308-381-5571) Boyd, Brown, Buffalo, Butler, Cass, Cedar, Colfax, Dawson, Dodge, Douglas, Hall, Hamilton, Holt, Howard, Kearney, Keya Paha, Knox, Merrick, Nance, Phelps, Platte, Polk, Rock, Sarpy, and Saunders

NEVADA (Reno, Nevada, 702-784-5227) Clark, Lincoln, Nye, and White Plain

NEW MEXICO (Albuquerque, New Mexico, 505-566-2323) Chaves, Eddy, and Soccoro

NORTH CAROLINA (Asheville, North Carolina, 704-259-0321) Edgecombe, Macon, Nash, Pitt, and Swain

NORTH DAKOTA (Grand Island, Nebraska, 308-381-5571)
Burleigh, Emmons, McKensie, Mclean, Mercer, Morton, and Oliver

OHIO (Columbus, Ohio, 614-231-3416) Pickaway, Washington, and Williams

OKLAHOMA (Tulsa, Oklahoma, 918-581-7458) McCurtain and Pushmataha

OREGON (Olympia, Washington, 206-753-9444)

SOUTH CAROLINA (Asheville, North Carolina, 704-259-0321) Aiken, Barnwell, Beaufort, Berkeley, Charleston, Colleton, Dorchester, Georgetown, Hampton, Horry, Jasper, and Marion

SOUTH DAKOTA (Pierre, South Dakota, 605-224-8692) Hughes and Yankton

TENNESSEE (Asheville, North Carolina, 704-259-0321)
Bedford, Blount, Bradley, Claiborne, Cumberland, Davison, Decatur, Franklin, Hamilton, Hancock, Hardin, Hawkins, Hickman, Knox, Lawrence, Lincoln, Loudon, Marion, Marshall, Maury, Meigs, Monroe, Morgan, Polk, Rhea, Roane, Scott, Sequatchie, Smith, Sullivan, Trousdale, Wayne, and Williamson

TEXAS (Texas, 713-229-3681 or 817-334-2961) Brewster, Comal, Hays, Jeff Davis, Menard, Pecos, and Reeves

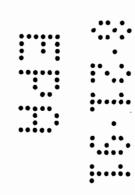
UTAH (Salt Lake City, Utah, 801-524-4430) Utah and Washington

VIRGINIA (Annapolis, Maryland, 301-269-5448) Augusta, Lee, Russell, Scott, Smyth, Tazewell, Washington, and Wise

WISCONSIN (Green Bay, Wisconsin, 414-465-2682) Crawford, Grant, Iowa, Pierce, Polk, Richland, St. Croix, and Vernon

WYOMING (Helena, Montana, 406-449-5225) Lincoln and Sublette





Pat Quarles.

-	-	
-		-

ATTACHED NOTIFICATION	FILE
TO: PM Cle Moon FROM: REG. SUPPORT BR.	FILE
FROM: REG. SUPPORT BR.	
U.	NO NEW LABEL
EPA REG. NO. 2724-446	NEW LABEL ATTACHED
COMPANY NAME	NEW CSF ATTACHED
	••••
THIS IS AN ADDITIONAL BRAN	D NAME
THIS IS A CSF PERMITTED UN	DER PR NOTICE 88-6
THIS IS A LABEL CHANGE PER	MITTED UNDER PR NOTICE 88-6 .
THIS WAS SENT TO SIG FOR C	ODING AND/OR MICROFICHING
FILE IN JACKET	

owen boods

Form Approved. OMB No. 2070-0060. Approval expires 6-30-90. Please read instructions on reverse before completing form. United States Environmental Protection Agency Office of Pesticide Programs (TS-767) Washington, DC 20460 OPP Identifier Number 143321 Registration Application for Pesticide: X Amendment Section 1. Company/Product Number 3. Product Manager 2. Date 4. Proposed Classification Restric-2724-446 14 May 1991 Phil Hutton - PM18 X General 5. Name and Address of Applicant (Include ZIP Code) Zoecon Corporation A Sandoz Company 12200 Denton Drive Dallas, TX 75234 Check if this is a new address 6. Product Name Zoecon RF-379 Mosquito Growth Regulator SR-20 Section II - Amendment Information Date of Letter Resubmission in response to Agency letter Final printed label in response to Agency letter X Other (explain below) Name Change to Zoecon RF-437 Mosquito Growth Regulator SR-20 NO DATA Section III 2. Type of Container 1. Material This Product Will Be Packaged In Child-Resistant Packaging Unit Packaging Water-Soluble Packaging Metal Plastic Yes H "Yes. Glass Package weight Unit package wgt No. per container Paper No. per container Other (Specify) 3. Location of Net Contents Information 4. Size(s) of Retail Container 1 oz to 55 gallons 6. Manner in Which Label Is Affixed To Product Container 5. Location of Label Directions Lithograph Other (Specify) On Label Paper glued Stenciled On material accompanying product Section IV 1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application). Name Kelly J. Parker Telephone No. (Include Area Code) ... 6. Date Application Received (Stamped) Regulatory Specialist 214/885-8726 Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law. 2. Signature 3. Title Regulatory Specialist 5. Date Signed 4. Typed Name Kelly J. Parker 14 Hay 1991

Paperwork Reduction Act Notice and Instructions

Paperwork Reduction Act Notice

Public reporting burden for this collection of information is estimated to average of 0.85 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

Instructions

General

This form is to be used for all applications for new and amended registrations for pesticide products.

In order to process an application for new registration submitted on this form, the following material must accompany the application:

- Offer to Pay Statement (EPA Form 8570-27, -28, -29). (If not exempted by 40 CFR 162.9-1(b).)
- 2. Confidential Statement of Formula (EPA Form 8570-4).
- 3. Five copies of draft labeling.
- 4. Three copies of any data submitted.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on $8\ 1/2\ x$ 11 inch paper or as a mockup of the proposed label. If prepared as a mockup it should be constructed in such a way as to facilitate storage in an $8\ 1/2\ x$ 11 inch file. Mockup labels significantly smaller than $8\ 1/2\ x$ 11 inches should be mounted on $8\ 1/2\ x$ 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

Specific

Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, Section I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

Section 1 - This Section must be completed for both Registration and Amended Registration actions.

- Company/Product Number Insert your company number, if
 one has been assigned. This number may have been assigned
 to you as a basic registrant, a distributor, or as an establishment. If application is for an amendment, insert the registration number of the product.
- 2. Date Fill in the appropriate date.
- Product Manager. If known, fill in the name and number of the Product Manager.
- Proposed Classification Specify the proposed classification for this product.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters.

An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

 Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

Amendment Information

Section II - This Section must be completed for all applications submitted in connection with Amended Registration.

 Subject of Amendment - Check the appropriate block, and provide a brief explanation of the purpose(s) for the amendment, such as: "the addition of a site, pest, or crop"; "to change inert ingredient"; "general label revisions of precautionary statements," etc.

Packaging and Container Information

Section III - This Section must be completed for all applications submitted in connection with New Registration.

- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
- Type of Retail Container Indicate type of container in which product will be marketed.
- Location of Net Contents Specify the net contents of all retail containers for your product.
- Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- Location of Use Directions Indicate the location of the use directions for your product.
- Manner in which label is affixed to product Indicate the method product labeling is attached to retail container.

Contact Point

Section IV - This Section must be completed for all Registration and Amended Registration applications.

- 1-5. Self-explanatory.
- 6. EPA Use Only.

ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Prevents emergence of adult fleas up to 8 weeks outdoors Controls pre-adult fleas [larvae] up to 8 weeks Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

20.0% 80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLCIATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS — Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-437 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-437 listed below in sufficient water to give complete coverage, One-half to 5 gals, of spray solution per acre (4.7-46.8 liters/nectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-437 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-437 per acre (55 to 73 ml/hectare) in water as directed.

For Fleas: Apply 1 fluid ounce of RF-437 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- SHAKE WELL BEFORE USING. Zoecon RF-437 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use clean equipment.
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-437, agitate and complete filling. Mild agitation during application is desirable.
- Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-437 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Intermittently Flooded Noncrop Areas: Zoecon RF-437 may be applied as directed above when flooding may result in floodwater mosquito hatch.

Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Crop Areas: RF-437 may be applied to irrigated croplands after flooding to control mosquito emergence. Examples of such sites are vineyards, rice fields (including wild rice), date palm orchards, fruit and nut orchards and berry fields and bogs. Irrigated pastures may be treated after each flooding without removal of livestock.

CHEMICATION» Refer to supplemental labeling entitled "Gulde to Product Application" for the directions for enemgation. Do not apply this product through any irrigation, system unless the supplemental labeling on chemication is followed.

TANK MIXING INSTRUCTIONS: RF-437 may be tank mixed with liquid Bacilius thuring ensis "Valley is a telephonesis (B.t.i.) formulations, such as TEKNAR MF-D (on its equivalent). The ratio of TEKNAR HP-D to RF-437 should range from 2417 to 50:1 (volume/volume). For example, to prepare as 50:1 tank mix add 1 gallon of RF-437 to 50 gallons of B.t.i. This tank mix can be applied to sites isted above at rates of 2-16 fluid ounces/acre (0.15-1.2 liters/hectare).

For Fleas Outdoors: Apply 1 ounce of RF-437 in 20 gallons of water to every 1000 square feet of residential turf. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs, outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-437 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-437 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [, such as Yardex,] should be used with RF-437 if a large population of fleas is present.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 U.S. Pats. 3,904,662;3,912,815 0591-C:0145E EPA Est © 1989 Zoecon Made in U.S.A.



ZOECON RF-437 MOSQUITO GROWTH **REGULATOR SR-20**

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development, These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides. Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides. After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive. Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

The information presented herein, while not guaranteed, is to the best of our knowledge true and accurate. No warranty or guarantee. express or implied, is made regarding the performance or stability of any product, since the manner of use and conditions of storage and handling are beyond our control.

0591-C:0192E

Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or camppy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredient reaches the water where it is released from the sand.

ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

> 99 lbs. washed, dry sand (20-45 mesh) 0.5 lbs. Zoecon RF-437 (7.5 fluid oz./lb.) 0.5 bs. HiSil 233 (silicon dioxide) Small Funnel Cement Mixer

- 1. Measure the time required for a level funnel full of sand to emoty.
- 2. Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fl.oz.) of Zoecon RF-437 onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of
- 3. Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
- 4. Stop the mixer and add 0.5 lbs. of HiSil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of HiSil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
- 5. Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more HiSil if it flows significantly slower and reduce the amount of HiSil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of 8 to 10 lbs, of the final mixture per acre, using standard granular dispersal equipment.

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20 ..

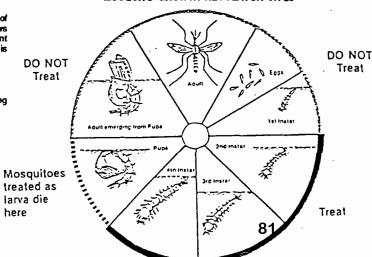
DO the following.

- 1. DO treat second, third and/or fourth instar largae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
- DO wait until treated large have pureted. Then collect purpae and transfer to sociating to observe for emergence of adults.
- 3. DO observe purhab for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
- 4. DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

- 1. DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
- 2. DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
- 3. DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness,
- 4. DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20





larva die

here

Chemigation: Apply this product only through flood (basin), furrow or border imigation systems. Do not apply this product through any other type of imigation system. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacutrers or ther experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Flood (Basin), Furrow and Border Chemigation: Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop stucture or weir box to decrease potential for water source contamination from backflow if water flow stops.

Systems utilizing a pressurized water and pesticide injection system must meet the following requiremments:

- The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- * The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where the pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

A pesticide supply tank is recommended for the application of product by chemigation.

Apply product continuously for the duration of water application.

0192E





A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

14 May 1991

Mr. Phil Hutton
Product Manager (18)
Insecticide-Rodenticide Branch
Office of Pesticide Programs (H7505C)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

RE:

Zoecon RF-379 Mosquito Growth Regulator SR-20

EPA Reg. No. 2724-446

Name Change

Dear Mr. Hutton:

For accounting purposes at Zoecon, we need to change the name of this product from Zoecon RF-379 Mosquito Growth Regulator SR-20 to Zoecon RF-437 Mosquito Growth Regulator SR-20. This is the only change proposed at this time.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

TO PRODUCT MANAGER DATE:

FAST - TRACK ACTION

This action has been determined to be a fast-track action by the feps and must be entered in the OLTS using one of the following codes:

- 160 Application for "me-too" registration
- 170 Application for registration old chemical "Me-too" with additional use.
- 300 Amendment label revision administrative (no data required).
- 305 Amendment label revision data required does not need HED/EFED review. STATE OF THE PARTY OF
- 310 Amendment added "me-too" Use no HED/EFED review needed.
- 345 Formula change no HED/EFED review required.

TAD (WHN)

08/27/91

KELLY J. PARKER ZOECON CORPORATION 12200 DENTON DRIVE DALLAS TX 75234

Product Name: RF-437 MOSQUITO GROWTH REGULAR SR-20

Company Name: ZOECON CORPORATION

Application No.: 168980 EPA Reg. No.: 2724-446 EPA Receipt Date: 08/21/91

Subject: Front End Screen for an Amendment

Dear Sir or Madam:

Your application for registration has been received by the Office of Pesticide Programs and has passed a preliminary screen for completeness. It will be placed in line for review to determine its acceptability. The application will be processed in chronological order of receipt.

Although the 1988 FIFRA amendments mandate EPA to review applications for expedited registration or amendments within 98 days, this turneround time will not be met immediately due to the backlog of applications received before December 24, 1988. However, EPA is increasing human and automated resources and making necessary procedural changes in order to eliminate the backlog and to meet the 98-day response time as soon as possible.

If you have any questions, you may contact Phil Hutton, Product Manager 18, at (703)-557-2690.

Sincerely,

Team Leader

Front End Processing Staff | Registration Support Branch | Registration Division (H7504C)

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson Product Management Team 18 U.S. Environmental Protection Agency Document Processing Desk (RED/RD-0030) Office of Pesticide Programs (H7504C) Room 266A, Crystal Mall 2 1921 Jefferson Davis Highway Arlington, VA 22202

RE:

Request for a Waiver of Analysis of Samples

All End-Products and Manufacturing-Products Listed in the RED

Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation respectfully requests a waiver of the analysis of samples, Guideline 151B-13, for all end-products and manufacturing-products subject to the Methoprene Reregistration Eligibility Decision document (see attached).

These products are not technical active ingredients and they are not produced by an integrated system; therefore, this requirement is not applicable.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

CC: Phil Hutton, RD, EPA

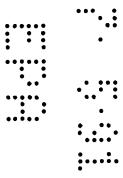
Dick King, SRRD, EPA

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 - **Product Specific** ID# 2724-RD-7

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25 Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34 Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36 Altosid Liquid Larvicide, EPA Reg. No. 2724-392 - Product Specific ID# 2724-RD-41 Altosid Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42 Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401 - Product Specific ID# 2724-RD-44 Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404 - Product Specific ID# 2724-RD-46 Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48 Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50 Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific ID# 2724-RD-50 ID# 2724-RD-439

Zoecon RF-274 Fogger, EPA Reg. No. 2724-337 - Product Specific ID# 2724-RD-22
Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23
Zoecon RF-280 Aerosol, EPA Reg. No. 2724-339 - Product Specific ID# 2724-RD-24
Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356 - Product Specific ID# 2724-RD-26
Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360 - Product Specific ID# 2724-RD-27
ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28
Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific ID# 2724-RD-29

Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30 Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31 ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33 Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49 Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson
Product Management Teom 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

RE: Request for a Waiver of Melting Point

All Products Listed in the RED

Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation respectfully requests a waiver of melting point, Guideline 151B-17(d), for all products subject to the Methoprene Reregistration Eligibility Decision document (see attached).

This requirement is only applicable for technical grade active ingredients that are solid at room temperature. Methoprene is a liquid at room temperature; therefore, this requirement does not apply to any product contained in the Methoprene RED.

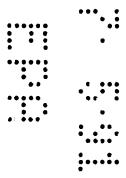
Best regards,

Kelly J. Parker Regulatory Specialist

800/527-0512

CC: Phil Hutton, RD, EPA Dick King, SRRD, EPA

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 - Product Specific ID# 2724-RD-7 Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25 Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34 Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36 Altosid Liquid Larvicide, EPA Reg. No. 2724-392 - Product Specific ID# 2724-RD-41 Altosid Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42 Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401 - Product Specific ID# 2724-RD-44 Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404 - Product Specific ID# 2724-RD-46 Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48 Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50 Methoprene, EPA Reg. No. 2724-441 - Product Specific ID# 2724-RD-56 (S)-Methoprene Technical, EPA Reg. No. 2724-442 - Product Specific ID# 2724-RD-51 Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific ID# 2724-RD-439 Zoecon RF-274 Fogger, EPA Reg. No. 2724-337 - Product Specific ID# 2724-RD-22 Zolumn RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23 n RF-280 Aerosol, EPA Reg. No. 2724-339 - Product Specific ID# 2724-RD-24 Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356 - Product Specific ID# 2724-RD-26 Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360 - Product Specific ID# 2724-RD-27 ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28 Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific ID# 2724-RD-29 Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30 Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31 ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33 Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49 Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

RE: Request for a Waiver of Boiling Point

All Products Listed in the RED

Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation respectfully requests a waiver of boiling point, Guideline 151B-17(e), for all products subject to the Methoprene Reregistration Eligibility Decision document (see attached).

This requirement is only applicable for technical grade active ingredients that are liquid at room temperature. The boiling point for Methoprene can be found in MRID Number 00010927. All other products are end-products and manufacturing-products; therefore, this requirement does not apply to any other product contained in the Methoprene RED.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

CC: Phil Hutton, RD, EPA

Dick King, SRRD, EPA

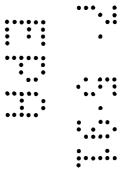
fley of Parker

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 - **Product Specific** ID# 2724-RD-7

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-35 Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34 Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36 Altosid Liquid Larvicide, EPA Reg. No. 2724-392 - Product Specific ID# 2724-RD-41 Altosid Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42 Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401 - Product Specific ID# 2724-RD-44 Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404 - Product Specific ID# 2724-RD-46 Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48 Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50 Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific ID# 2724-RD-50 ID# 2724-RD-439

Zoecon RF-274 Fogger, EPA Reg. No. 2724-337 - Product Specific ID# 2724-RD-22
Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23
Zoecon RF-280 Aerosol, EPA Reg. No. 2724-339 - Product Specific ID# 2724-RD-24
Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356 - Product Specific ID# 2724-RD-26
Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360 - Product Specific ID# 2724-RD-27
ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28
Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific ID# 2724-RD-29

Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30 Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31 ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33 Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49 Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Pratection Agency
Document Processing Desk (RED/RD-0030)
Cffice of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

RE: Request for a Waiver of Solubility

All Products Listed in the RED

Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation respectfully requests a waiver of solubility, Guideline 151B-17(g), for all products subject to the Methoprene Reregistration Eligibility Decision document (see attached).

This requirement is only applicable for technical grade active ingredients. The solubility of Methoprene can be faund in MRID Number 00010927. All other products are end-products and manufacturing-products; therefore, this requirement does not apply to any other product contained in the Methoprene RED.

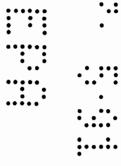
Best regards,

Kelly J. Parker Regulatory Specialist

800/527-0512

CC: Phil Hutton, RD, EPA Dick King, SRRD, EPA

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 - Product Specific ID# 2724-RD-7 Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25 Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34 Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36 Altosid Liquid Larvicide, EPA Reg. No. 2724-392 - Product Specific ID# 2724-RD-41 Attosid Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42 Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401 - Product Specific ID# 2724-RD-44 Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404 - Product Specific ID# 2724-RD-46 Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48 Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50 Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific ID# 2724-RD-439 Zoecon RF-274 Fogger, EPA Reg. No. 2724-337 - Product Specific ID# 2724-RD-22 Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23 pn RF-280 Aerosol, EPA Reg. No. 2724-339 - Product Specific ID# 2724-RD-24 Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356 - Product Specific ID# 2724-RD-26 pn RF-297 Aerosol, EPA Reg. No. 2724-360 - Product Specific ID# 2724-RD-27 ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28 Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific ID# 2724-RD-29 Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30 Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31 ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33 Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49 Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson Product Management Team 18 U.S. Environmental Protection Agency Document Processing Desk (RED/RD-0030) Office of Pesticide Programs (H7504C) Room 266A, Crystal Mall 2 1921 Jefferson Davis Highway Arlington, VA 22202

RE: Request for a Waiver of Vapor Pressure

All Products Listed in the RED

Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation respectfully requests a waiver of vapor pressure, Guideline 151B-17(h), for all products subject to the Methoprene Reregistration Eligibility Decision document (see attached).

This requirement is only applicable for active ingredients. The vapor pressure for Methoprene can be found in MRID Number 00010927. All other products are end-products and manufacturing-products; therefore, this requirement does not apply to any other product contained in the Methoprene RED.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

CC: Phil Hutton, RD, EPA

Dick King, SRRD, EPA

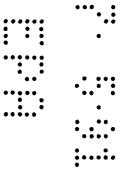
Jelly of Parker

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 - **Product Specific ID# 2724-RD-7**

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25 Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34 Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36 AltosId Liquid Larvicide, EPA Reg. No. 2724-392 - Product Specific ID# 2724-RD-41 AltosId Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42 Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401 - Product Specific ID# 2724-RD-44 Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404 - Product Specific ID# 2724-RD-46 Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48 Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50 Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific ID# 2724-RD-50 ID# 2724-RD-439

Zoecon RF-274 Fogger, EPA Reg. No. 2724-337 - Product Specific ID# 2724-RD-22
Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23
Zoecon RF-280 Aerosol, EPA Reg. No. 2724-339 - Product Specific ID# 2724-RD-24
Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356 - Product Specific ID# 2724-RD-26
Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360 - Product Specific ID# 2724-RD-27
ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28
Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific ID# 2724-RD-29

Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30 Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31 ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33 Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49 Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson Product Management Team 18 U.S. Environmental Protection Agency Document Processing Desk (RED/RD-0030) Office of Pesticide Programs (H7504C) Room 266A, Crystal Mall 2 1921 Jefferson Davis Highway Arlington, VA 22202

RF: Request for a Waiver of Stability

All Products Listed in the RED

Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation respectfully requests a waiver of stability, Guideline 151B-17(i), for all products subject to the Methoprene Reregistration Eligibility Decision document (see attached).

This requirement is only applicable for technical grade active ingredients. The stability of Methoprene can be found in MRID Number 00010927. All other products are end-products and manufacturing-products; therefore, this requirement does not apply to any product contained in the Methoprene RED.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

CC: Phil Hutton, RD, EPA

Dick King, SRRD, EPA

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 - **Product Specific** ID# 2724-RD-7

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25 Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34 Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36 Altosid Liquid Larvicide, EPA Reg. No. 2724-392 - Product Specific ID# 2724-RD-41 Altosid Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42 Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401 - Product Specific ID# 2724-RD-44 Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404 - Product Specific ID# 2724-RD-46 Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48 Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50 Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific ID# 2724-RD-50 ID# 2724-RD-439

Zoecon RF-274 Fogger, EPA Reg. No. 2724-337 - Product Specific ID# 2724-RD-22
Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23
Zoecon RF-280 Aerosol, EPA Reg. No. 2724-339 - Product Specific ID# 2724-RD-24
Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356 - Product Specific ID# 2724-RD-26
Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360 - Product Specific ID# 2724-RD-27
ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28
Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific ID# 2724-RD-29

Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30 Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31 ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33 Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49 Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson Product Management Team 18 U.S. Environmental Protection Agency Document Processing Desk (RED/RD-0030) Office of Pesticide Programs (H7504C) Room 266A, Crystal Mall 2 1921 Jefferson Davis Highway Arlington, VA 22202

RE: Correspondence for Storage Stability and Corrosion Characteristics

All Products Listed in the RED

Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation conducts these studies together; therefore, the attached requests for extension of submitting storage stability data also apply to the corrosion characteristics portion of the study. We apologize for any inconvenience this oversight may have caused.

These requests are resubmitted here because we haven't received a response from EPA.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

CC: Phil Hutton, RD, EPA

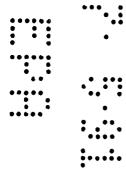
Dick King, SRRD, EPA

Kelly of Parker

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25 Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34 Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36 Altosid Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42 Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48 Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50 Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific ID# 2724-RD-439

Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23 ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28 Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific ID# 2724-RD-29

Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30 Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31 ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33 Zcopp RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49 Zobp RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

20 May 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

RE:

Request for an Extension of Storage Stability Data

Guideline 151B-17(I)

Product Specific ID# 2724-RD-7? (we didn't receive a response form for this product)

EPA Reg. No. 2724-446

Dear Mr. Nelson:

Zoecon Corporation respectfully requests an extension for submission of storage stability data for the subject product. We would like to submit a final report for this study in October 1992.

According to FIFRA as amended in 1988, there is no legislated timeframe for submission of product specific data for List A products (although Lists B, C, and D are subject to the 8 month rule); therefore, the length of our requested extension should pose no regulatory problem. For storage stability studies, EPA currently requires 3 lots, 3 temperatures, and 1 year's worth of GLP data. In the best of circumstances, this is unachievable within 8 months.

According to 40 CFR § 160.29(c), "There shall be a sufficient number of personnel for the timely and proper conduct of the study according to the protocol." Considering all of the GLP storage stability studies required by the Methoprene RED, Zoecon would need to hire 50 more people to conduct the studies, as well as the inherent need to build more stability storage space. I've been told by management that these are not viable options. We have come up with a schedule that would allow Zoecon to comply with the RED by conducting the stability studies in shifts. This will also allow Zoecon to remain in compliance with § 160.29(c) and allow us to use available storage space.

Please let me know as soon as possible whether our request for an extension has been granted.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

CC:

Phil Hutton, RD, EPA

Karen Samek, SRRD, EPA

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson Product Management Toom 18 U.S. Environmental Protection Agency Document Processing Desk (RED/RD-0030) Office of Pesticide Programs (H7504C) Room 266A, Crystal Mall 2 1921 Jefferson Davis Highway Arlington, VA 22202

RE:

Request for a Waiver of Miscibility

All Products Listed in the RED

Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation respectfully requests a waiver of miscibility, Guideline 151B-17(n), for all products subject to the Methoprene Reregistration Eligibility Decision document (see attached).

This requirement is only applicable for emulsifiable liquids intended to be diluted with petroleum solvents. Although we do have emulsifiable liquids, they are not diluted with petroleum solvents; therefore, this requirement does not apply to any product contained in the Methoprene RED.

Best regards,

Kelly J. Parker

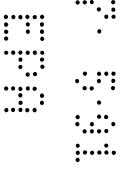
Regulatory Specialist

800/527-0512

CC: Phil Hutton, RD, EPA

Dick King, SRRD, EPA

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 - Product Specific ID# 2724-RD-7 Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25 Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34 Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36 Altosid Liquid Larvicide, EPA Reg. No. 2724-392 - Product Specific ID# 2724-RD-41 Altosid Larylcide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42 Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401 - Product Specific ID# 2724-RD-44 Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404 - Product Specific ID# 2724-RD-46 Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48 Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50 Methoprene, EPA Reg. No. 2724-441 - Product Specific ID# 2724-RD-56 (S)-Methoprene Technical, EPA Reg. No. 2724-442 - Product Specific ID# 2724-RD-51 Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific ID# 2724-RD-439 n RF-274 Fogger, EPA Reg. No. 2724-337 - **Product Specific ID# 2724-RD-22** In RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23on RF-280 Aerosol, EPA Reg. No. 2724-339 - Product Specific ID# 2724-RD-24 on RF-293 Methoprene Bolus,EPA Reg. No. 2724-356 - Product Specific ID# 2724-RD-26 Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360 - Product Specific ID# 2724-RD-27 ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28 Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific ID# 2724-RD-29 Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30 Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31 ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33 Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49 Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson Product Management Team 18 U.S. Environmental Protection Agency Document Processing Desk (RED/RD-0030) Office of Pesticide Programs (H7504C) Room 266A, Crystal Mall 2 1921 Jefferson Davis Highway Arlington, VA 22202

RE: Request for a Waiver of Oct/Water Partition Coefficient Data
All End-Use Products Listed in the RED

Case Number and Name 20030 Methods

Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon respectfully requests a waiver of Octanol/Water Partition Coefficient Data, Guideline Number 151B-17(p) for all end-use products subject to the Methoprene Reregistration Eligibility Decision document (see attached).

We understand that this requirement was part of the generic data requirement for the technical grade active ingredient. Data are being generated on the active ingredient and will be submitted by the April 1992 deadline. All other products are end-products and manufacturing-products; therefore, this requirement does not apply to any other product contained in the Methoprene RED.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

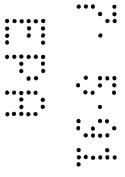
CC: Phil Hutton, RD, EPA Dick King, SRRD, EPA

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 - **Product Specific ID# 2724-RD-7**

Zoecon RF-291 Emulsifiable Concentrate, EPA Reg. No. 2724-352 - Product Specific ID# 2724-RD-25 Kabat Tobacco Protector, EPA Reg. No. 2724-377 - Product Specific ID# 2724-RD-34 Kabat Tobacco Protector Concentrate, EPA Reg. No. 2724-384 - Product Specific ID# 2724-RD-36 Altosid Liquid Larvicide, EPA Reg. No. 2724-392 - Product Specific ID# 2724-RD-41 Altosid Larvicide Concentrate, EPA Reg. No. 2724-393 - Product Specific ID# 2724-RD-42 Zoecon RF-299 RTU Carpet Pump Spray, EPA Reg. No. 2724-401 - Product Specific ID# 2724-RD-44 Zoecon RF-322 Ovicidal Pump Spray, EPA Reg. No. 2724-404 - Product Specific ID# 2724-RD-46 Zoecon RF-329 Ant Growth Regulator, EPA Reg. No. 2724-420 - Product Specific ID# 2724-RD-48 Zoecon RF-342 Emulsifiable Concentrate, EPA Reg. No. 2724-427 - Product Specific ID# 2724-RD-50 Zoecon RF-379 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 - Product Specific ID# 2724-RD-50 ID# 2724-RD-439

Zoecon RF-274 Fogger, EPA Reg. No. 2724-337 - Product Specific ID# 2724-RD-22
Zoecon RF-275 Pressurized Spray, EPA Reg. No. 2724-338 - Product Specific ID# 2724-RD-23
Zoecon RF-280 Aerosol, EPA Reg. No. 2724-339 - Product Specific ID# 2724-RD-24
Zoecon RF-293 Methoprene Bolus, EPA Reg. No. 2724-356 - Product Specific ID# 2724-RD-26
Zoecon RF-297 Aerosol, EPA Reg. No. 2724-360 - Product Specific ID# 2724-RD-27
ALTOSID CP-10, EPA Reg. No. 2724-367 - Product Specific ID# 2724-RD-28
Starbar Block IGR Cattle Supplement, EPA Reg. No. 2724-368 - Product Specific ID# 2724-RD-29

Granular IGR Cattle Supplement, EPA Reg. No. 2724-372 - Product Specific ID# 2724-RD-30 Block IGR Cattle Supplement, EPA Reg. No. 2724-373 - Product Specific ID# 2724-RD-31 ALTOSID Briquets, EPA Reg. No. 2724-375 - Product Specific ID# 2724-RD-33 Zoecon RF-292 Briquet, EPA Reg. No. 2724-421 - Product Specific ID# 2724-RD-49 Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 - Product Specific ID# 2724-RD-52



A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

10 May 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

RE:

Request for an Extension of Inhalation Toxicology Data

Request for a Meeting

Product Specific ID# 2724-RD-?? (We didn't receive a response form for

this product; therefore, we can't give you the ID#.)

EPA Reg. No. 2724-446

Dear Mr. Nelson:

Zoecon Corporation respectfully requests an extension for submission of inhalation toxicology data for the subject product. Further, we would like to meet with individuals within SRRD, RD and HED of EPA who can authorize policy changes with respect to inhalation toxicology.

First of all, the EPA appears to be taking a hard stand on the tox grouping of methoprene products. What was acceptable to the Agency even three years ago appears not acceptable today...especially accepting ($\underline{R},\underline{S}$)-Methoprene data as relevant to (S)-Methoprene data.

Secondly, we don't understand the absurdness of the required inhalation studies, both what is required to be tested and, most absurd, how it is to be tested. The limit test which meets current guidelines of 5 mg test material/L of air is impossible to achieve when trying to comply with the SEP which requires that at least 25% of the particles must have a MMAD $\leq 1~\mu$. The two "requirements" are mutually exclusive. One laboratory has told us that to achieve both requirements, they do two separate limit tests and hope that EPA can merge the results. This means that the lab requires the sponsor to provide a minimum of 5 kg of test material, as 95% of it will be wasted trying to generate such small particles, as well as obtaining maximum chamber concentrations.

Thirdly, these requirements are cost prohibitive. To generate 5 kg of test material (only for an inhalation toxicology study), could require an unscheduled production run for the active ingredient and/or the end-products. (S)-Methoprene is one of the most expensive active ingredients to manufacture. Two limit studies to reach one conclusion is also costly (our estimate is \$10,000 per limit study, assuming only animal exposure and reduced particle size generation by the laboratory). Analytical costs should also be included in this estimate; however, Zoecon has traditionally conducted the analytical work in-house.

Finally, these requirements are also time prohibitive. The limiting factors include 1) amount of test material required, 2) the chemist's time required to characterize beginning material, to validate the method, and to analyze the chamber samples, 3) laboratory availability (frequently scheduling is required months in advance). Because of the analytical burden of the RED for the product chemistry portion, the analytical work for the inhalation toxicology may be conducted at the inhalation laboratory. This would further increase the time necessary to conduct inhalation studies. All inhalation studies would be conducted at the same laboratory to negate the need for duplicative analytical work. To get on a laboratory master schedule to conduct several studies at once would automatically put us in violation of the 21 November 1991 deadline.

Zoecon requests the time of submission be contingent upon how long it takes EPA to resolve these policy issues. The Society of Toxicology is currently working as a group to suggest changes to this policy; therefore, it seems that this is not only a Zoecon request for a change, but a science- and industry-wide request. We would be happy to set up a room at our hotel to meet with Agency officials. Please let me know when you can schedule this meeting and also if our extension has been granted.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

CC: Anne Lindsay, RD, EPA

Phil Hutton, RD, EPA

Karen Samek, SRRD, EPA

Dr. Penelope Fenner-Crisp, HED, EPA

Dr. Reto Engler, HED, EPA

Dr. Judith Graham, R&D, EPA (Research Triangle)

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

1 July 1991

Mr. Willie Nelson Product Management Team 18 U.S. Environmental Protection Agency Document Processing Desk (RED/RD-0030) Office of Pesticide Programs (H7504C) Room 266A, Crystal Mall 2 1921 Jefferson Davis Highway Arlington, VA 22202

RE:

Request for a Waiver of Product Performance Data Case Number and Name: 0030 Methoprene

Dear Mr. Nelson:

Zoecon Corporation respectfully requests a waiver of product performance data for the products listed below.

The requirement as listed in the Methoprene RED states that Guideline 95-10(b)(1): product performance for mosquitoes in cesspools, septic tanks, and waste treatment settling ponds should be followed. We will delete these sites from our labels, thus making the requirement not applicable to this product. Revised labels will be submitted prior to the 11/21/91 deadline.

EPA Reg. No.	Product Specific ID#
2724-375 2724-392 2724-393 2724-446	2724-RD-33 2724-RD-41 2724-RD-42 — 2724-RD-439
2724-448	2724-RD-52
2724-448 2724-421	2724-RD-52 2724-RD-49

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

CC: Phil Hutton, RD, EPA Dick King, SRRD, EPA

107

Please read Instructions on reverse before completing form.	Form Ans	proved, OMB No. 2070-0060				
United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460 Application for Pesticide:		Registration Amendment Other	OPP Identifier Number			
Section I						
1. Company/Product Number 2724-446	2. EPA Product Ma Willie Nel		Proposed Classification			
4. Company/Product (Name)	PM#		None Restricted			
Zoecon RF-437 Mosquito Growth Regulator 5. Name and Address of Applicant (Include ZIP Code)		view. In accordance with	n FIFRA Section 3(c)(3)			
Zoecon Corporation A Sandoz Company		is similar or identical in c				
12200 Denton Drive Dallas, TX 75234	EPA Reg. No					
Check if this is a new address	Product Name_	Marie Village				
Secti						
Amendment - Explain below	Final printed Agency lette	labels in response to r dated				
Resubmission in response to Agency letter dated	"Me Too" App	"Me Too" Application.				
Notification - Explain below.	χ Other - expla	in below.	The last the second			
Section Sectio	n III					
1. Material This Product Will Be Packaged In:	Waxan Calable Barbarian	2. Type of Containe				
Child-Resistant Packaging Unit Packaging	Water Soluble Packaging	Total State of Charles				
Yes* Yes	Yes	X Metal				
X No X No	X No	Glass				
* Certification must be If "Yes," No. per Unit Package wgt. Container	If "Yes," No. Package wgt. cont	per Other (S	Specify)			
submitted.		Le 1	***			
Location of Net Contents Information 4. Size(s) of F	letail Container	5. Location of Label Direct On Label	ctions			
	55 Gallons	On Labeling accor	npanying product			
6. Manner In Which Label Is Affixed To Product Lithogra	glued	er (terete erge			
Stenciled Section IV						
1. Contact Point (Complete Items directly below for identification		, if necessary, to process th	is application.)			
Name Title Telephone No. (Include Area Code) Kelly J. Parker Regulatory Specialist 214/888-8/20						
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law. 6. Date Application Received (Stamped)						
2. Signature / 3.	Title	a Marian				
Kelly & Parken	Regulatory Speci	alist				
4. Typed Name 5.	Date					
Kelly J. Parker	11 May 1992		108			
The second secon	oto White ED	A File Conv. (original)	Vellow - Applicant conv			

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

<u>INSTRUCTIONS</u>: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned
 to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product
 Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendment to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.
- EFCTION II This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the stomission of final printed labeling, for reregistration and for any other action that pertains to a specific FPA-registered product. This section is not to be used for a new application for registration.
- Subject of submission Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.
- *SECTION III (Packaging and Container Information) This Section must be completed for all applications submitted in connection with new registration or applicable amendments.
- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Specify the net contents of all retail containers for your product.
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affixed to product Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.
1-5. Self-explanatory.

6. EPA Use Only.

DP BARCODE: D176369

CASE: 028442 DATA PACKAGE RECORD DATE: 03/31/92

SUBMISSION: S415050 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 674 8 MNTH RESP-PROD SPC DATA

CHEMICALS: 105402 S-Methoprene Isopropyl-11-methoxy (2E,4E,7S)-3,7,1 20.0000%

ID#: 002724-00446 ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

COMPANY: 002724 ZOECON CORPORATION

PRODUCT MANAGER: 18 PHILLIP HUTTON 703-305-7690 ROOM: CM2 213 PM TEAM REVIEWER: WILLIE NELSON 703-305-6601 ROOM: CM2 209

RECEIVED DATE: 10/10/91 DUE OUT DATE: 04/07/92

* * * DATA PACKAGE INFORMATION * * *

P BARCODE: 176369 EXPEDITE: Y DATE SENT: 03/31/92 DATE RET.: / / HEMICAL: 105402 S-Methoprene Isopropyl-11-methoxy (2E,4E,7S)-3,7,11-trimeth

P TYPE: 001 Submission Related Data Package

ADMIN DUE DATE: 06/29/92 CSF: Y LABEL: Y

 ASSIGNED TO
 DATE IN
 DATE OUT

 DIV: RD
 / / /

 BRAN: RSB
 / / /

 SECT: PRS
 / / /

 REVR:
 / / /

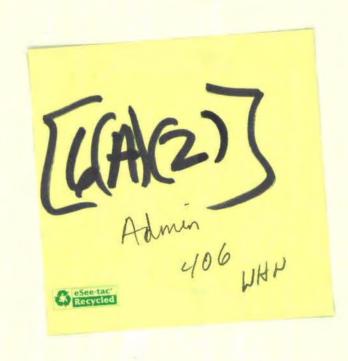
 CONTR:
 / / /

* * * DATA REVIEW INSTRUCTIONS * * *

TOM, PLEASE REVIEW THIS INFORMATION FOR FIFRA.

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC BRANCH/SECTION DATE OUT DUE BACK INS CSF LABEL



(A) SEPA United States Environmental Prote Office of Pesticide Programs (Washington, DC 2046 Application for Pe			grams (H7505 C 20460	Agency C)	Registrat Amendm Other	ent		
		Se	ction I		13.10		- 12 -	
Company/Product Num 2724-446	ber			2. EPA Product Manager Willie Nelson 3. Proposed Classification				
4. Company/Preduct (Name)			PM#					
Zoecon RF-437 Mosquito Growth Regulator SR-			r SR-20	RD-0030		The Desir	YE	
5. Name and Address of A Zoecon Corpora A Sandoz Compa 12200 Denton D Dallas, TX 75 Check if thi	tion ny rive	Code)	(b)(i to:			ce with FIFRA Sec al in composition a		
Section II				ouct Name				
Amendment - Explain below			Final printed labe	els in response to		lanes.		
Resubmission in resp	oonse to Agency letter	dated		"Me Too" Applica	ation.			
Notification - Explain	below.		X	Other - explain b				
Explanation: Use additional Responsi	se to Agency L			II.)				
			10/92.	11.)				
Respon	se to Agency L	etter 4/1	10/92.	II.)				
Respon 1. Material This Product Child-Resistant Packaging	se to Agency L Will Be Packaged In: Unit Packaging	etter 4/1	on III Water Solub	II.) le Packaging	2. Type of Co			
Respon	se to Agency L	etter 4/1	0/92. on III		XX	Metal Plastic Blass		
Respon 1. Material This Product Child-Resistant Packaging Yes* X No * Certification must be	Will Be Packaged In: Unit Packaging Yes X No	etter 4/1	on III Water Solub	le Packaging No. per	X	Metal Plastic		
Respon 1. Material This Product Child-Resistant Packaging Yes* X No	Will Be Packaged In: Unit Packaging Yes X No If "Yes," Unit Package wgt.	Section No. per	Water Solub Yes X No If "Yes," Package wg	le Packaging No. per containe	x X F C C C C C C C C C C C C C C C C C C	Metal Plastic Blass Paper Other (Specify)		
Respon 1. Material This Product Child-Resistant Packaging Yes* X No * Certification must be submitted. 3. Location of Net Content	Will Be Packaged In: Unit Packaging Yes X No If "Yes," Unit Package wgt. ts Information Container	No. per container 4. Size(s) of I 1 OZ. ti Lithogy Paper Stencil	Water Solubly Yes X No If "Yes," Package wg Retail Containe 0 55 Gall raph glued led	le Packaging No. per containe	Location of Label	Metal Plastic Blass Paper Other (Specify)	luct	
Respon 1. Material This Product Child-Resistant Packaging Yes* X No * Certification must be submitted. 3. Location of Net Content X Label 6. Manner In Which Label	Will Be Packaged In: Unit Packaging Yes X No If "Yes," Unit Package wgt. ts Information Container Is Affixed To Product	No. per container 4. Size(s) of I 1 OZ. ti Lithogi X Paper Stencii	Water Solubly Yes X No If "Yes," Package wg Retail Containe 0 55 Gall raph glued led tion IV	le Packaging No. per container ons Other (Location of Label On Labeling	Metal Plastic	.::	
Respon 1. Material This Product Child-Resistant Packaging Yes* X No * Certification must be submitted. 3. Location of Net Content X Label	Will Be Packaged In: Unit Packaging Yes X No If "Yes," Unit Package wgt. ts Information Container Is Affixed To Product	No. per container 4. Size(s) of I 1 OZ. ti X Paper Stencil Sector identification	Water Solubly Yes X No If "Yes," Package wg Retail Containe 0 55 Gall raph glued led tion IV n of individual to Title	le Packaging No. per container ons Other (Location of Label On Labeling Decessary, to proceed to the control of the contr	Metal Plastic) le Area Code	

4. Typed Name

5. Date

Previous editions are obsolete.

Kelly J. Parker

EPA Form 8570-1 (Rev. 12-90)

11 May 1992

White - EPA File Copy (original)

112 Yellow - Applicant copy

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

2. Confidential Statement of Formula (EPA Form 8570-4);

3. Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling;

St. St. St. A

5. Three copies of any data submitted;

6. Authorization letter where applicable;

Authorization letter where app.
 Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- Company/Product Number Insert your Company Number, if one has been assigned by EFA. This number may have been assigned
 to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product
 Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendment to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and Product name of the product you believe is similar to or identical to your product. The product must be

OFFICE ON II - This section must be completed for all applications submitted to amend the registration only of a terrently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.

2. Type of Retail Container - Indicate type of container in which product will be marketed.

- 3. Location of Net Contents Specify the net contents of all retail containers for your product.
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.

5. Location of Use Directions - Indicate the location of the use directions for your product.

6. Manner in which label is affixed to product - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

1-5. Self-explanatory.

6. EPA Use Only.

(A) SEPA	United States Environm Office of Pesticide Washington Application	nental Protection Ag Programs (H7505C n, DC 20460 n for Pesticio		Amen	tration dment	OPP Identifier Num
	Males English	Section I	Tank Mary	DESCRIPTION OF THE PROPERTY OF		
1. Company/Product Number		2. EP.	A Product Manag		3. P	Proposed Classification
2724-452			illie Nelso	n	V	None Rest
4. Company/Product(Name) APEX 5E Insect Growth Regulator		PM#	0-0030		L _X	None Rest
5. Name and Address of Applican Zoecon Corporation A Sandoz Company 12200 Denton Drive Dallas, TX 75234 Check if this is a rec		(b)(i), to:				h FIFRA Section 3(composition and lab
	S	ection I I	Trely III			
Amendment - Explain below			Final printed labo Agency letter da		e to	N HOLE
Resubmission in response to	Agency letter dated		"Me Too" Applica	etion	1 100	
Notification - Explain below.		V				
Explanation: Use additional page		X	Other - explain b	elow.		
Response to	Agency Letter 4					
Material This Product Will Be	Sec	ction III				
Material This Product Will Be Child-Resistant Packaging Unit	Sec Packaged In: Packaging	ction III Water Soluble	Packaging		of Containe	
Material This Product Will Be	Sec	ction III	Packaging		Metal	T.
Material This Product Will Be Child-Resistant Packaging Unit	Sec Packaged In: Packaging	ction III Water Soluble	Packaging		Metal Plastic Glass	
1. Material This Product Will Be Child-Resistant Packaging Ves* X If "Ye	Secondary Second	Water Soluble Yes X No r If "Yes,"	No. per		Metal Plastic	
1. Material This Product Will Be Child-Resistant Packaging Ves* X No * Certification must be	Packaged In: Packaging Yes No	Water Soluble Yes X No r If "Yes,"	No. per		Metal Plastic Glass Paper	
1. Material This Product Will Be Child-Resistant Packaging Ves* X If "Ye	Packaged In: Packaging Yes No es," Package wgt. No. per containe	Water Soluble Yes X No r If "Yes,"	No. per contains	er . Location of	Metal Plastic Glass Paper Other (S	Specify)
1. Material This Product Will Be Child-Resistant Packaging Ves* X No * Certification must be submitted.	Packaged In: Packaging Yes No es," Package wgt. No. per containe No. per containe	Water Soluble Yes X No r If "Yes," Package wgt. of Retail Container	No. per containe	Location of X On Lab	Metal Plastic Glass Paper Other (S	Specify)
1. Material This Product Will Be Child-Resistant Packaging Ves* X No * Certification must be submitted. 3. Location of Net Contents Inform	Packaged In: Packaging Yes No es," Package wgt. No. per containe nation 4. Size(s) ner 1.25 1 ed To Product X Pal	Water Soluble Yes X No If "Yes," Package wgt. of Retail Container iter & 2 5 hograph per glued	No. per containe	Location of X On Lab	Metal Plastic Glass Paper Other (S	Specify)
1. Material This Product Will Be Child-Resistant Packaging Unit Yes* X Yes* X If "Ye Unit submitted. 3. Location of Net Contents Inform X Label Contain	Packaged In: Packaging Yes No es," Package wgt. No. per containe nation 4. Size(s) ner 1.25 1 ed To Product X Pal Ste	Water Soluble Yes X No If "Yes," er Package wgt. of Retail Container iter & 2.5	No. per contain 5	Location of X On Lab	Metal Plastic Glass Paper Other (S	Specify)
1. Material This Product Will Be Child-Resistant Packaging Ves* X Yes* X If "Ye Unit I Submitted. 3. Location of Net Contents Inform X Label Contain 6. Manner In Which Label Is Affixed.	Packaged In: Packaging Yes No es," Package wgt. No. per containe nation 4. Size(s) ed To Product X Pal Ste	Water Soluble Yes X No If "Yes," Package wgt. of Retail Container iter & 2.5 hograph per glued enciled Section IV	No. per contains	Location of X On Lab	Metal Plastic Glass Paper Other (S Label Direct peling accor	Specify)ctions mpanying product
1. Material This Product Will Be Child-Resistant Packaging Yes* X Yes* X If "Ye Unit submitted. 3. Location of Net Contents Inform X Label Contain 6. Manner In Which Label Is Affixed. 1. Contact Point (Complete items) Name	Packaged In: Packaging Yes No es," Package wgt. No. per containe nation 4. Size(s) ed To Product X Pal Ste	Water Soluble Yes X No If "Yes," er Package wgt. of Retail Container iter & 2.5 hograph uper glued enciled Section IV	No. per contains	Location of X On Lab	Metal Plastic Glass Paper Other (S Label Direct peling accor	Specify)ctions
1. Material This Product Will Be Child-Resistant Packaging Ves* X Yes* X If "Ye Unit I Submitted. 3. Location of Net Contents Inform X Label Contain 6. Manner In Which Label Is Affixed.	Packaged In: Packaging Yes No es," Package wgt. No. per contains nation 4. Size(s) ed To Product X Pal Ste S s directly below for identifica	Water Soluble Yes X No If "Yes," er Package wgt. of Retail Container iter & 2.5 hograph uper glued enciled Section IV ation of individual to Title Regulato	No. per contains	Location of X On Lat On Lat	Metal Plastic Glass Paper Other (S	Specify)ctions mpanying product his application.) ne No. (Include Area 4/888-8726
1. Material This Product Will Be Child-Resistant Packaging Yes* X Yes* X If "Ye Unit submitted. 3. Location of Net Contents Inform X Label Contain 6. Manner In Which Label Is Affixed. 1. Contact Point (Complete items) Name	Packaged In: Packaging Yes No es," Package wgt. No. per containe Mation A. Size(s) No ed To Product A. Size(s) Site Site Site Site Site Site Site Site	Water Soluble Yes X No If "Yes," er Package wgt. of Retail Container iter & 2 5 hograph uper glued enciled Section IV ation of individual to Title Regulato	No. per container Tother (De contacted, if a contacted are true, accurate are true, ac	Location of Con Late On Late Instead Com	Metal Plastic Glass Paper Other (S Label Director) Director Deling according	Specify)
1. Material This Product Will Be Child-Resistant Packaging Unit Yes* X Yes* X If "Ye * Certification must be submitted. 3. Location of Net Contents Inform X Label Contain 6. Manner In Which Label Is Affixed 1. Contact Point (Complete items Name Kelly J. Parker I certify that the statements I had I acknowledge that any knowing	Packaged In: Packaging Yes No es," Package wgt. No. per containe Mation A. Size(s) No ed To Product A. Size(s) Site Site Site Site Site Site Site Site	Water Soluble Yes X No If "Yes," er Package wgt. of Retail Container iter & 2 5 hograph uper glued enciled Section IV ation of individual to Title Regulato	No. per container Tother (De contacted, if a contacted are true, accurate are true, ac	Location of Con Late On Late Instead Com	Metal Plastic Glass Paper Other (S Label Director) Director Deling according	specify) ctions mpanying product is application.) ne No. (Include Area 4/888-8726 6. Date Application Received
1. Material This Product Will Be Child-Resistant Packaging Unit Yes* X Yes* X * Certification must be submitted. 3. Location of Net Contents Inform X Label Contain 6. Manner In Which Label Is Affixed 1. Contact Point (Complete items Name Kelly J. Parker I certify that the statements I had I acknowledge that any knowing both under applicable law. 2. Signature	Packaged In: Packaging Yes No es," Package wgt. No. per containe Mation A. Size(s) No ed To Product A. Size(s) Site Site Site Site Site Site Site Site	Water Soluble Yes X No If "Yes," er Package wgt. of Retail Container iter & 2.5 hograph per glued enciled Section IV ation of individual to Title Regulato tion all attachments theretement may be puni	No. per container Tother (De contacted, if it is a contacted, i	Location of Con Laborate and communication imprisonment	Metal Plastic Glass Paper Other (S Label Director) Director Deling according	specify) ctions mpanying product is application.) ne No. (Include Area 4/888-8726 6. Date Application Received
1. Material This Product Will Be Child-Resistant Packaging Unit Yes* * Certification must be submitted. 3. Location of Net Contents Inform X Label Contain 6. Manner In Which Label Is Affixed 1. Contact Point (Complete items Name Kelly J. Parker I certify that the statements I had I acknowledge that any knowing both under applicable law.	Packaged In: Packaging Yes No es," Package wgt. No. per containe Mation A. Size(s) No ed To Product A. Size(s) Site Site Site Site Site Site Site Site	Water Soluble Yes X No If "Yes," Package wgt. of Retail Container iter & 2 5 hograph per glued enciled Section IV ation all attachments thereforement may be punified.	No. per contained in the contacted, if it contacted, if it contacted is a contacted in the	Location of Con Laborate and communication imprisonment	Metal Plastic Glass Paper Other (S Label Director) Director Deling according	specify) ctions mpanying product is application.) ne No. (Include Area 4/888-8726 6. Date Application Received

White - EPA File Copy (original)

Yellow - Applicant copy

EPA Form 8570-1 (Rev. 12-90) Previous editions are obsolete.

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

2. Confidential Statement of Formula (EPA Form 8570-4);

3. Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling;

5. Three copies of any data submitted;

6. Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned
 to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product
 Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendment to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a turrently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific example product. This section is not to be used for a new application for registration.

1. Subject of Submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION, III (Packaging and Container Information) - This Section must be completed for all applications subjected in connection with new registration or applicable amendments.

Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.

2. Type of Retail Container - Indicate type of container in which product will be marketed.

- 3. Location of Net Contents Specify the net contents of all retail containers for your product.
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affixed to product Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

1-5. Self-explanatory.

6. EPA Use Only.

#U.S.GPO:1992-0-614-57/41065

Please read instructions of	n reverse before co	mpleting form	1.	Form Ann	royod	OMB No. 20	70_0060	. Approval expires 11-30-9
(A) SEP	United State Office of	es Environmen of Pesticide Pro Washington, E Olication f	tal Protection ograms (H750 OC 20460	Agency (5C)		Registra Amendm Other	tion	OPP Identifier Number
	1	Se	ction I					
1. Company/Product Number	r		2.	EPA Product Mai	nager		3. P	roposed Classification
2724-452				Willie Nelson				
4. Company/Product (Name			PM	#			LX	None Restricted
APEX 5E Insect (Growth Regula	itor		RD=0030				
5. Name and Address of Ap Zoecon Corporat A Sandoz Company 12200 Denton Dr Dallas, TX 7523	ion / ive	Code)	(b) to EP	(i), my product				FIFRA Section 3(c)(3) omposition and labeling
		Cool		oduct Ivallie	-	-		
		Sect	ion I I	T Final prints (1)	abole !	n manage t		
Amendment - Explain b	elow			Agency letter		n response to	-	No the last
Resubmission in respon	ise to Agency letter	dated		"Me Too" App	olication	n.		May - No
Notification - Explain be	low.			Other - explai				
			ι I and Sectio		n belov	W.		5.00
Material This Product W	'ill Be Packaged In:	Section	on III	14		1		
Child-Resistant Packaging	Unit Packaging		Water Solu	ble Packaging		2. Type of C	ontainer	
Yes*	Yes		Yes				Metal	
No	Y No		X No		7-1		Plastic Blass	1000
140	If "Yes,"	No. per	If "Yes,"	No. p	per	-	aper	
* Certification must be	Unit Package wgt.	container	Package w				pecify)	
submitted. 3. Location of Net Contents	leformation	4. Size(s) of	Potail Contain	NOF.	5 10	ocation of Lab	al Direct	ions
V Label Co	ontainer	1.25 lit	or & 2.5	liter	×	On Label		panying product
6. Manner In Which Label Is	Affixed To Product	X Paper Stenci	glued	Othe	er (000000 000
			tion IV					****
Contact Point (Complete Name	items directly below		n <i>of individual</i> Title	to be contacted,	if nece		elephon	
Kelly J. Parker				tory Speci	alis	The second		/888-8726
		Certification			-			6. Date Application
I certify that the statement I acknowledge that any ki both under applicable law	nowingly false or mis							Received (Stamped)
2. Signature		3	. Title	THE REAL PROPERTY.	1	T. VIII.		
Kill C	+ Parke	1		ory Specia	alist	t		
Kelly J. Parker		5	Date	4000				116

EPA Form 8570-1 (Rev. 12-90) Previous editions are obsolete.

White - EPA File Copy (original)

Yellow - Applicant copy

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

<u>INSTRUCTIONS</u>: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned
 to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product
 Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendment to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and Aroduct name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.
- CONCITON II This section must be completed for all applications submitted to amend the registration only of a corrently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the commission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.
- Subject of submission Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Specify the net contents of all retail containers for your product.
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affixed to product Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

1-5. Self-explanatory.

6. EPA Use Only.

*U.S.GPO:1992-0-8 97157/41065

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides.

After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the <u>number of adults which emerge is the only criterion for accurately assessing control.</u> Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

1091-	C-01	9 2 E	;REI) .	•••	•	ï
	• •	• •	•	• •		•	•
	•	•	•	•	•	•	•
	• .	•	•	•		. •	•
	•	•	•	••	••	•	•



CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

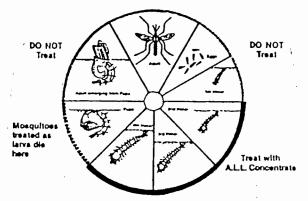
DO the following:

- DO treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
- DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
- DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
- DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

- DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
- DO NOT take dip counts of pupae after treatment for the purpose
 of performance evaluation. Normal looking pupae will be seen but
 these will not develop into normal adults.
- DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
- 4. DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredients reach the water where they are released from the sand. ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

99 lbs. washed, dry sand (20-45 mesh) 0.5 lbs. Zoecon RF-437 (7.5 fluid oz.) 0.5 lbs. Hisil 233 (silicon dioxide) Small Funnel Cement Mixer

- 1. Measure the time required for a level funnel full of sand to empty.
- Into a rotating-type mixer, place 99 lbs, of dry (20-45 mesh) sand.
 While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fluid ounce) of Zoecon RF-437, onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
- Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
- 4. Stop the mixer and add 0.5 lbs. of Hisil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of Hisil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
- Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more Hisil if it flows significantly slower and reduce the amount of Hisil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

[] INDICATES OPTIONAL WORDING*

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Outdoor flea control available through PCO's Prevents emergence of adult fleas up to 8 weeks outdoors Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

20.0%

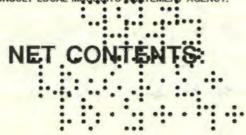
Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABBITEMENT AGENCY.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS — Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Gulde to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals, of spray solution per acre (4.7-46.8 liters/nectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

For fleas: apply 1 fluid ounce of RF-379 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- SHAKE WELL BEFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use clean equipment.
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable.
- Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand moture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. Rice: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquito found rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittentity Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

For Fless Outdoors: Apply 1 fluid ounce of RF-379 in 20 gallions of water to every 1000 square feet. Pay particular attention to areas where pets frequent, such as, in and around dog houses end runs, and around shrubs and outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-379 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 cunce of RF-379 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [, such as Yardex,] can be used with RF-379.

For Outdoor Use Only: Use care when treating around lawn furniture and outdoor carpeting. This product may stain these items.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

[Store in cool place, away from children. Do not reuse empty container. Wrap and put in trash.

Selfer makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

> Zoecon Corporation A Sandoz Company 12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 U.S. Pats. 3,904,662;3,912,815 0291-C:0193E © 1989 Zoecon Made in U.S.A.

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

10 May 1991

Mr. Willie Nelson
Product Management Team 18
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

RE:

Request for an Extension of Inhalation Toxicology Data
Request for a Meeting
Product Specific ID# 2724-RD-?? (We didn't receive a response form for this product; therefore, we can't give you the ID#.)
EPA Reg. No. 2724-446

Dear Mr. Nelson:

Zoecon Corporation respectfully requests an extension for submission of inhalation toxicology data for the subject product. Further, we would like to meet with individuals within SRRD, RD and HED of EPA who can authorize policy changes with respect to inhalation toxicology.

First of all, the EPA appears to be taking a hard stand on the tax grouping of methoprene products. What was acceptable to the Agency even three years aga appears not acceptable today...especially accepting $(\underline{R},\underline{S})$ -Methoprene data as relevant to (\underline{S}) -Methoprene data.

Secondly, we don't understand the obsurdness of the required inhalation studies, both what is required to be tested and, most absurd, how it is to be tested. The limit test which meets current guidelines of 5 mg test material/L of gir is impossible to achieve when trying to comply with the SEP which requires that at least 25% of the particles must have a MMAD $\leq 1~\mu$. The two "requirements" are mutually exclusive. One laboratory has told us that to achieve both requirements, they do two separate limit tests and hope that EPA can merge the results. This means that the lab requires the sponsor to provide a minimum of 5 kg of test material, as 95% of it will be wasted trying to generate such small particles, as well as obtaining maximum chamber concentrations.

Thirdly, these requirements are cost prohibitive. To generate 5 kg of test material (only for an inhalation toxicology study), could require an unscheduled production run for the active ingredient and/or the end-products. (S)-Methoprene is one of the most expensive active ingredients to manufacture. Two limit studies to reach one conclusion is also costly (our estimate is \$10,000 per limit study, assuming only animal exposure and reduced particle size generation by the laboratory). Analytical costs should also be included in this estimate; however, Zoecon has traditionally conducted the analytical work in-house.

Finally, these requirements are also time prohibitive. The limiting factors include 1) amount of test material required, 2) the chemist's time required to characterize beginning material, to validate the method, and to analyze the chamber samples, 3) laboratory availability (frequently scheduling is required months in advance). Because of the analytical burden of the RED for the product chemistry portion, the analytical work for the inholation toxicology may be conducted at the inhalation laboratory. This would further increase the time necessary to conduct inhalation studies. All inhalation studies would be conducted at the same laboratory to negate the need for duplicative analytical work. To get on a laboratory master schedule to conduct several studies at once would automatically put us in violation of the 21 November 1991 deadline.

Zoecon requests the time of submission be contingent upon how long it takes EPA to resolve these policy issues. The Society of Taxicology is currently working as a group to suggest changes to this policy; therefore, it seems that this is not only a Zoecon request for a change, but a science- and industry-wide request. We would be happy to set up a room at our hotel to meet with Agency officials. Please let me know when you can schedule this meeting and also if our extension has been granted.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

CC: Anne Lindsay, RD, EPA

Phil Hutton, RD, EPA

July of Parker

Karen Samek, SRRD, EPA

Dr. Penelope Fenner-Crisp, HED, EPA

Dr. Reto Engler, HED, EPA

Dr. Judith Graham, R&D, EPA (Research Triangle)

b)(i), my product to: EPA Reg. No Product Name	n eview. In according its similar or ide	dance with I	oposed Classification None Restricted FIFRA Section 3(c)(3) Imposition and labeling
Phil Huttor PM# 0 18 6. Expedited Re b)(i), my product to: EPA Reg. No. Product Name Final printed Agency letter "Me Too" App X Other - explain	n eview. In according its similar or ide	dance with I	None Restricted
0 18 6. Expedited Re (b)(i), my product to: EPA Reg. No Product Name Final printed Agency letter "Me Too" App	labels in responser dated	dance with I	FIFRA Section 3(c)(3
Product Name Final printed Agency letter Me Too" App X Other - explain	labels in responser dated	ntical in con	
Agency letter "Me Too" App χ Other - explain	or dated	e to	
Agency letter "Me Too" App χ Other - explain	or dated	e to	
oluble Packaging s	1000 1000 1000	Metal	
THE RESERVE OF THE PARTY OF THE	A COMPANY OF THE PARTY OF THE P	Glass Paper Other (Sp	pecify)
lainer	5. Location of		ons
gallons Othe	On Lab		panying product)
4 70		Telephone	application.) PNo. (Include Area Cod.
		ovete.	6. Date Application Received (Stamped)
	wgt. No. configurations Oth Oth	wgt. No. per container ainer 5. Location of 2 On Lab On Lab On Lab Other (ual to be contacted, if necessary, to ulatory Specialist thereto are true, accurate and come punishable by fine or imprisonment	X Metal X Plastic Glass Paper Other (Sp. 2007) All 1000 Other (Sp. 2007) Other (Sp

EPA Form 8570-1 (Rev. 12-90) Previous editions are obsolete.

Kelly J. Parker

20 November 1991

White - EPA File Copy (original)

Yellow - Applicant copy

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- Proposed Classification Specify the proposed classification of this product.
 Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendment to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page off additional space is needed.

SECTION III. (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.
 Type of Retail Container Indicate type of container in which product will be marketed.
 Location of Net Contents Specify the net contents of all retail containers for your product.

- 4. Size(s) of Wetail Container Specify the net contents of all retail containers for your product.
- Location of Use Directions Indicate the location of the use directions for your product.
 Manner in which label is affixed to product Indicate the method product label is attached to retail container.

SECTION' IN. (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

1-5. Self-explanatory.

6. EPA Use Only.

123

LAN.	on reverse before completing United States Environment		etion A		_			Approval expires 11-30-93 OPP Identifier Number
* SEP	Office of Pestici		17505			Registrat Amendm	1011	
ACL	Applicati	on for Pe		de:		Other		156411
		Section I		L				200122
Company/Product Number	er er	Section	2. El	A Product Man	ager		3. Pro	posed Classification
2724-446			Phil Hutton					
4. Company/Product (Name)			PM#				X	None Restricted
Zoecon RF-437 Mo	squito Growth Regu	lator SR-		18				
5. Name and Address of Ap	the state of the s	e shayn						FIFRA Section 3(c)(3) mposition and labeling
Zoecon Corporat A Sandoz Compan		100	to:	, my product i	o ollii	mai oi identic	ai iii coi	inposition and labeling
12200 Denton Dr		7 19	EDA	Den No				
Dallas, TX 752			CFA	Reg. No				
Check if this	is a new address		Prod	uct Name				
		Section I i						F-10-1100
Amendment - Explain b	xelow			Final printed la Agency letter				
Resubmission in respo	nse to Agency letter dated			"Me Too" Appl	lication	n.		No. of the last of
Notification - Explain be	elow.		x	Other - explain	belov	w.		
Explanation: Use addition	nal page(s) if necessary. (For	section Land Sc	ection	li i				
Applica	tion for Reregistr	ration						
M							list. 1	
Material This Product V		Section III						
Child-Resistant Packaging	Unit Packaging	Water	Solubl	e Packaging		2. Type of Co	ontainer	
Yes*	Yes		es			X	letal	
V No	y No	X N	lo.	74,547 1 1 1			lastic lass	
	If "Yes," No.			No. po	er	F	aper	- - - - -
* Certification must be	Unit Package wgt. conta		e wgt		170		ther (Spi	ecity)
submitted. 3. Location of Net Contents	Information 4 Size	(s) of Retail Co	ntaine		5. Lo	ocation of Labe	l Directio	ns
		oz. to 55			[X	On Label	2000000	anying product
6. Manner In Which Label Is	s Affixed To Product	Lithograph	yaı	Other	1	On Labeling	accomp	arrying product
		Paper glued Stenciled					TIL	
		Section IV						
Contact Point (Complete Name	items directly below for identi-	Title	dual to	be contacted,	if nece			application.) No. (Include Area Code)
	. Parker		gula	tory Spec	ial		1000	/888-8726
	Certific	cation				• •		6. Date Application
I certify that the statement I acknowledge that any k both under applicable law	ts I have made on this form an nowingly false or misleading : v.	nd all attachmen statement may l	ts the	eto are true, ac ishable by fine	or im	and complete prisonment or		Received (Stamped)
2. Signature		3. Title						
Kelli	of Parker	-	Reg	ulatory S	pec	ialist		
4. Typed Name		5. Date	10				-3	
Kelly J	. Parker		20	November	199	1		124
EPA Form 8570-1 (Rev. 12-	90) Previous editions are	obsolete.		White - EPA	File	Copy (original)	Yellow - Applicant copy

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];

2. Confidential Statement of Formula (EPA Form 8570-4);

3. Formulator's Exemption Statement (EPA Form 8570-27);

4. Five copies of draft labeling;

5. Three copies of any data submitted;

6. Authorization letter where applicable;

7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission. Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Mumber.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.

3. Proposed Classification - Specify the proposed classification of this product.

4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendment to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by ... " "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all

applications submitted in connection with new registration or applicable amendments.

1. Type of Packaging - shock the appropriate block if your product will be packaged in the indicated packaging types.

Indicate the size of the individual packets and number per retail container.

2. Type of Retail Container . Indicate type of container in which product will be marketed.

- 3. Location of Net Contents Specify the net contents of all retail containers for your product.
- Size(s) of Retail Container Specify the net contents of all retail containers for your product.
 Location of Lise Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affixed to product Indicate the method product label is attached to retail container.

SECTION FY (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc. 1-5. Self-exptanatory.

6. EPA Use Only.

125

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

20 November 1991

Mr. Willie Nelson
Product Management Team (18)
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall, Bldg. 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

RE: Methoprene Reregistration, List A - Case 0030

Dear Mr. Nelson:

Enclosed in quadruplicate are data in support of reregistration of the subject products containing methoprene as the active ingredient. Please disregard suffixes in the code names for products. Those are strictly internal designations.

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 Product Specific ID# 2724-RD-7

MRID Number	Study
**************************************	Wilkins, C. Storage Stability of Methoprene EC 65% (RF 174) EPA Reg. No. 2724-286 2724-405, 55947-88, 55947-94. Zoecon Study Number 1747. Unpublished. 22 pages.
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 337, "Determination of Methoprene in RF 174 by Gas Chromatography Analysis"</u> . Zoecon Study Number 1539 Unpublished. 16 pages.
	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, pH, Flashpoint, and Viscosity of RF 174, EPA Registration Numbers 2724-286, 2724-405, 55947-88 and 55947-94. Zoecon Study Number 1758. Unpublished. 23 pages.
	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R174 SAN 800 I 66EC</u> : <u>Acute Oral Toxicity Study in Male and Female Rats</u> . SRI Study No. LSC 2673-M027-91. Zoecon Study No. 1728. Unpublished. 41 pages.
	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R174 SAN 800 1:66EC: Primary Skin Irritation Study in Rabbits. SRI Study No. LSC 2673-M029-91. Zoecon Study No. 1730. Unpublished. 40 pages.

.:.126

	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R174 SAN 800 I 66EC: Eye Irritation Study in Rabbits SRI Study No. LSC 2673-M030-91. Zoecon Study No. 1731. Unpublished. 42 pages.
	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R174 SAN 800 I 66EC</u> : Acute <u>Dermal Toxicity Study in Male and Female Rabbits</u> . SRI Study No. LSC 2673-M028-91. Zoecon Study No. 1729. Unpublished. 39 pages.
	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R174 SAN 800 I 66EC: Skin Sensitization Study in Guinea Pigs . SRI Study No. LSC 2673-M031-91. Zoecon Study No. 1732. Unpublished. 60 pages.
	e data are also being submitted in support of Diacon, EPA Reg. No. 55947-94, Product r our sister company, Sandoz Crop Protection Corporation.
Apex 5E, EPA Reg. Product Specific ID	
formulations are ident agent of Sandoz Crop	, 1728, 1729, 1730, 1731, 1732, 1747, 1758 are all applicable to this product. The tical, the registered use sites are different. A letter certifying Zoecon Corporation as an Protection Corporation, is being provided under separate cover. As their agent, we are lata in support of the Apex 5E registration currently being transferred to Zoecon.
Zoecon RF-274 For Product Specific ID	gger, EPA Reg. No. 2724-337 # 2724-RD-22
MRID Number	Study
	Wilkins, C. Stability of (S)-Methoprene/Permethrin Solvent Based Fogger/Aerosol (RF274B) EPA Reg. No. 2724-337. Zoecon Study Number 1301. Unpublished. 14 pages.
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 63C, "Procedure for the Analysis of Permethrin and Methoprene in RF 274 and RF 280 (Solvent Based Foggers and Aerosols)"</u> . Zoecon Study Number 1539. Unpublished. 21 pages.
	Clark, A. <u>Physical and Chemical Properties Testing for Zoecon RF-274 Fogger</u> . MRI No. 9914-F. Zoecon No. 1672. Unpublished. 13 pages.
	McDaniel, J. <u>Flash Point Determination of Zoecon RF-274 Fogger Concentrate</u> . Zoecon Study Number 1680. Unpublished. 8 pages.
	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R274B SAN 1139 I5.8AE Skin Sensitization Study in Guinea Pigs</u> . SRI Study No. LSC 2673-M037-91. Zoecon Study No. 1738. Unpublished. 55 pages.
Zoecon RF-275 Pre Product Specific ID	essurized Spray, EPA Reg. No. 2724-338 D# 2724-RD-23
MRID Number	<u>Study</u>
	Clark, A. Physical and Chemical Properties Testing for Zoecon RF-275 Pressurized Spray. MRI No. 9914-F. Zoecon No. 1674. Unpublished. 15 pages.
	McDaniel, J. Flash Point Determination of Zoecon RF-275 Aerosol Concentrate. Zoecon Study Number 1680. Unpublished. 8 pages.
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 324 "Procedure for the Analysis of Methoprene, Synergist MGK-264, Pyrethrins and PBO in a Water-Based System (Including RF 275)". Zoecon Study Number 1539. Unpublished. 19 pages.
	•••••

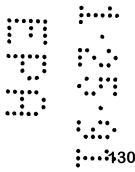
MRID Number	Study
	Clark, A. <u>Physical and Chemical Properties Testing for Zoecon RF-280 Aerosol</u> . MRI No. 9914-F. Zoecon No. 1671. Unpublished. 13 pages.
	McDaniel, J. Flash Point Determination of Zoecon RF-280 Aerosol Concentrate. Zoecon Study Number 1680. Unpublished. 8 pages.
	1, 1539, and 1738 listed above for Zoecon RF-274 Fogger are also applicable to this difference in the two products is a small difference in the amount of propellant.
	Emulsifiable Concentrate, EPA Reg. No. 2724-352 ID# 2724-RD-25
MRID Number	Study
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 329, "Procedure for the Analysis for Methoprene in a Methoprene Emulsifiable Concentrate (RF 291)".</u> Zoecon Study Number 1539. Unpublished. 16 pages.
	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-29 EPA Registration Number 2724-352. Zoecon Study Number 1667. Unpublished 23 pages.
	• •
	Methoprene Bolus, EPA Reg. No. 2724-356 ID# 2724-RD-26
	ID# 2724-RD-26 Wilkins, C. Storage Stability of Methoprene Bolus (RF 293) EPA Reg. No. 2724-356.
	 ID# 2724-RD-26 Wilkins, C. Storage Stability of Methoprene Bolus (RF 293) EPA Reg. No. 2724-356. Zoecon Study Number 1744. Unpublished. 19 pages. Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density of RF 293, EPA Registration Number 2724-356. Zoecon Study Number 1712
Zoecon RF-297	 ID# 2724-RD-26 Wilkins, C. Storage Stability of Methoprene Bolus (RF 293) EPA Reg. No. 2724-356. Zoecon Study Number 1744. Unpublished. 19 pages. Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density of RF 293, EPA Registration Number 2724-356. Zoecon Study Number 1712 Unpublished. 17 pages. Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 223C, "Procedure for the Analysis of Methoprene in RF 293, (Methoprene Bolus)". Zoecon Study Number 1539
Zoecon RF-297	 Wilkins, C. Storage Stability of Methoprene Bolus (RF 293) EPA Reg. No. 2724-356. Zoecon Study Number 1744. Unpublished. 19 pages. Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density of RF 293, EPA Registration Number 2724-356. Zoecon Study Number 1712 Unpublished. 17 pages. Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 223C, "Procedure for the Analysis of Methoprene in RF 293, (Methoprene Bolus)". Zoecon Study Number 1539 Unpublished. 16 pages. Aerosol, EPA Reg. No. 2724-360
Zoecon RF-297 Product Specific	 Wilkins, C. Storage Stability of Methoprene Bolus (RF 293) EPA Reg. No. 2724-356. Zoecon Study Number 1744. Unpublished. 19 pages. Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density of RF 293, EPA Registration Number 2724-356. Zoecon Study Number 1712 Unpublished. 17 pages. Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 223C, "Procedure for the Analysis of Methoprene in RF 293, (Methoprene Bolus)". Zoecon Study Number 1539 Unpublished. 16 pages. Aerosol, EPA Reg. No. 2724-360 ID# 2724-RD-27
Zoecon RF-297 Product Specific	 Wilkins, C. Storage Stability of Methoprene Bolus (RF 293) EPA Reg. No. 2724-356. Zoecon Study Number 1744. Unpublished. 19 pages. Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density of RF 293, EPA Registration Number 2724-356. Zoecon Study Number 1712 Unpublished. 17 pages. Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 223C, "Procedure for the Analysis of Methoprene in RF 293, (Methoprene Bolus)". Zoecon Study Number 1539 Unpublished. 16 pages. Aerosol, EPA Reg. No. 2724-360 ID# 2724-RD-27 Study Wilkins, C. Storage Stability of (S)-Methoprene/Permethrin Water Based Aerosol
Zoecon RF-297 Product Specific	 Wilkins, C. Storage Stability of Methoprene Bolus (RF 293) EPA Reg. No. 2724-356. Zoecon Study Number 1744. Unpublished. 19 pages. Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density of RF 293, EPA Registration Number 2724-356. Zoecon Study Number 1712 Unpublished. 17 pages. Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 223C, "Procedure for the Analysis of Methoprene in RF 293, (Methoprene Bolus)". Zoecon Study Number 1539 Unpublished. 16 pages. Aerosol, EPA Reg. No. 2724-360 ID# 2724-RD-27 Study Wilkins, C. Storage Stability of (S)-Methoprene/Permethrin Water Based Aerosol (RF297A) EPA Reg. No. 2724-360. Zoecon Number 1308. Unpublished. 14 pages. Clark, A. Physical and Chemical Properties Testing for Zoecon RF-297 Aerosol. MRI

	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R297 ZOE 014I.47AE: Acute Oral Toxicity Study in Male and Female Rats . SRI Study No. LSC 2561-M008-91. Zoecon Study No. 1675. Unpublished. 34 pages.
	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R297 ZOE 014I.47AE</u> : Acute <u>Dermal Toxicity Study in Male and Female Rabbits</u> . SRI Study No. LSC 2561-M009-91. Zoecon Study No. 1676. Unpublished. 43 pages.
	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R297 ZOE 014I.47AE: Primary Skin Irritation Study in Rabbits</u> . SRI Study No. LSC 2561-M010-91. Zoecon Study No. 1677. Unpublished. 42 pages.
	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R297 ZOE 014I.47AE: Primary Eye Irritation Study in Rabbits.</u> SRI Study No. LSC 2561-M011-91. Zoecon Study No. 1678. Unpublished. 44 pages.
	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R297 ZOE 014I.47AE: Skin Sensitization Study in Guinea Pigs.</u> SRI Study No. LSC 2561-M012-91. Zoecon Study No. 1679. Unpublished. 59 pages.
	, EPA Reg. No. 2724-367 ID# 2724-RD-28
· · · · · · · · · · · · · · · · · · ·	Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density of RF 74, EPA Registration Number 2724-367. Zoecon Study Number 1712. Unpublished. 17 pages.
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 77A, "Procedure for the Analysis of (R,S)-Methoprene in RF 74, (CP10)"</u> . Zoecon Study Number 1539. Unpublished. 16 pages.
Granular IGR Ca Product Specific	ittle Supplement, EPA Reg. No. 2724-372 ID# 2724-RD-30
	Sheehan, T. Precision and Accuracy for Current Analytical Procedure (CAP) Number 335, "Procedure for the Analysis for (R,S)-Methoprene in Zoecon's Granular and Block Cattle Supplements EPA REG NOS 2724-372 and 2724-373". Zoecon Study Number 1721. Unpublished. 22 pages.
	335, "Procedure for the Analysis for (R,S)-Methoprene in Zoecon's Granular and Block Cattle Supplements EPA REG NOS 2724-372 and 2724-373". Zoecon Study Number
	335, "Procedure for the Analysis for (R,S)-Methoprene in Zoecon's Granular and Block Cattle Supplements EPA REG NOS 2724-372 and 2724-373". Zoecon Study Number 1721. Unpublished. 22 pages. Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density for 9118SAN800I0.02GB, Granular Feed Supplement, EPA Registration
Product Specific	335, "Procedure for the Analysis for (R,S)-Methoprene in Zoecon's Granular and Block Cattle Supplements EPA REG NOS 2724-372 and 2724-373". Zoecon Study Number 1721. Unpublished. 22 pages. Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density for 9118SAN800I0.02GB, Granular Feed Supplement, EPA Registration Number 2724-372. Zoecon Study Number 1726. Unpublished. 17 pages.
	335, "Procedure for the Analysis for (R,S)-Methoprene in Zoecon's Granular and Block Cattle Supplements EPA REG NOS 2724-372 and 2724-373". Zoecon Study Number 1721. Unpublished. 22 pages. Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density for 9118SAN800I0.02GB, Granular Feed Supplement, EPA Registration Number 2724-372. Zoecon Study Number 1726. Unpublished. 17 pages. Supplement, EPA Reg. No. 2724-373 ID# 2724-RD-31
Product Specific MRID Number Zoecon Study 172	335, "Procedure for the Analysis for (R,S)-Methoprene in Zoecon's Granular and Block Cattle Supplements EPA REG NOS 2724-372 and 2724-373". Zoecon Study Number 1721. Unpublished. 22 pages. Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density for 9118SAN800I0.02GB, Granular Feed Supplement, EPA Registration Number 2724-372. Zoecon Study Number 1726. Unpublished. 17 pages. Supplement, EPA Reg. No. 2724-373 ID# 2724-RD-31 Study Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density for 9119SAN800I0.02BB, Block Feed Supplement, EPA Registration Number
Product Specific MRID Number Zoecon Study 172	335. "Procedure for the Analysis for (R,S)-Methoprene in Zoecon's Granular and Block Cattle Supplements EPA REG NOS 2724-372 and 2724-373". Zoecon Study Number 1721. Unpublished. 22 pages. Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density for 9118SAN800I0.02GB, Granular Feed Supplement, EPA Registration Number 2724-372. Zoecon Study Number 1726. Unpublished. 17 pages. Supplement, EPA Reg. No. 2724-373 ID# 2724-RD-31 Study Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density for 9119SAN800I0.02BB, Block Feed Supplement, EPA Registration Number 2724-373. Zoecon Study Number 1726. Unpublished. 17 pages. 1 listed above for Granular IGR Cattle Supplement (EPA Reg. No. 2724-372) alsq provides

ALTOSID Briquets Product ID# 2724	, EPA Reg. No. 2724-375 RD-33
MRID Number	Study
***************************************	Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, and Density of RF 433N, EPA Registration Number 2724-375</u> . Zoecon Study Number 1712. Unpublished. 17 pages.
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 325, "Procedure for the Analysis of Methoprene in RF 433N (30 Day Briquet and Briquet Premix)"</u> . Zoecon Study Number 1539. Unpublished. 16 pages.
Kabat Tobacco Pro Product Specific ID	otector, EPA Reg. No. 2724-377 D# 2724-RD-34
MRID Number	Study
	McDaniel, J., Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-385N, EPA Registration Number 2724-377</u> . Zoecon Study Number 1667. Unpublished. 23 pages
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 321 "Determination of Methoprene in RF 385N and RF 386N (Kabat)"</u> . Zoecon Study Number 1539. Unpublished. 17 pages.
Kabat Protector Co Product Specific ID	oncentrate, EPA Reg. No. 2724-384 0# 2724-RD-36
MRID Number	Study
	McDaniel, J., Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-386N, EPA Registration Number 2724-384</u> . Zoecon Study Number 1667. Unpublished. 21 pages
analytical method for	isted above for Kabat Tobacco Protector provides precision and accuracy data on the both products. These two products are identical except in the level of methoprene; the ctor is 5% methoprene and the Concentrate product is 80% methoprene.
Altosid Liquid Larv Product Specific IE	icide, EPA Reg. No. 2724-392 0# 2724-41
MRID Number	Study
	McDaniel J. Moorman R. Ngunen K. Thornton K. Sheehan T. Lenhart J. Color

McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-438N, EPA Registration Number 2724-392. Zoecon Study Number 1667. Unpublished. 24 pages.

Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 328, "Procedure for the Analysis of (S)-Methoprene in RF 437N, RF438N and RF 329 (Altosid Liquid Larvicide SR-20, SR-5 and Pharorid)". Zoecon Study Number 1539. Unpublished. 28-pages.



Altosid Liquid Larvicide Concentrate, EPA Reg. No. 2724-393 Product Specific ID# 2724-42 MRID Number Study

-	
MRID Number	<u>Study</u>
	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of RF-437N, EPA Registration Numbers 2724-393 and 2724-446. Zoecon Study Number 1667. Unpublished. 24 pages.
	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R437N SAN 810 I20CS: Acute Oral Toxicity Study in Male and Female Rats . SRI Study No. LSC 2673-M032-91. Zoecon Study No. 1733. Unpublished. 36 pages.
	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R437N SAN 810 I20CS: Acute Dermal Toxicity Study in Male and Female Rabbits</u> . SRI Study No. LSC 2673-M033-91. Zoecon Study No. 1734. Unpublished. 41 pages.
	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R437N SAN 810 I20CS: Primary Skin Irritation Study in Rabbits . SRI Study No. LSC 2673-M034-91. Zoecon Study No. 1735. Unpublished. 39 pages.
	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R437N SAN 810 I20CS: Eye Irritation Study in Rabbits . SRI Study No. LSC 2673-M035-91. Zoecon Study No. 1736. Unpublished. 44 pages.
	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R437N SAN 810 I20CS: Skin Sensitization Study in Guinea Pigs . SRI Study No. LSC 2673-M036-91. Zoecon Study No. 1737. Unpublished. 54 pages.
Zoecon Study Number the analytical method	er 1539 listed above for Altosid Liquid Larvicide provides precision and accuracy data on for both products.
Zoecon RF-299 RT Product Specific II	U Carpet Pump Spray, EPA Reg. No. 2724-401 D# 2724-44
MRID Number	Study
	Wilkins, C. Stability of (S)-Methoprene/Permthrin Pump Spray EPA Reg. No. 2724-401. Zoecon Study Number 1283. Unpublished. XX pages.
	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of RF-299, EPA Registration Number 2724-401. Zoecon Study Number 1667. Unpublished. 23 pages.
	Lephart, J. Method Validation for the Analysis of (R,S)-Methoprene or (S)-Methoprene and Permethrin in a RTU Water-based Carpet Spray. Zoecon Project Code R299SAN1129I.26AL. 1303 Report-VMOA. Unpublished. 62 pages.
Zoecon RF-322 Ov Product Specific II	ricidal Pump Spray, EPA Reg. No. 2724-404 D# 2724-RD-46
MRID Number	Study
	Wilkins, C. Stability of Ovitrol Flea & Tick Pump Spray (RF322) EPA Reg. No. 2724-401 (sic). Zoecon Study Number 1283. Unpublished. XX pages.
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 242B, "Procedure for the Analysis of S-Methoprene, PBO, Pyrethrins and MGK-264 in Alcohol-Based Public Spray (Including RF 322)". Zoecon Study Number 1539. Unpublished. 20 pages.

	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of RF-322, EPA Registration Number 2724-404. Zoecon Study Number 1667. Unpublished. 23 pages.
Zoecon RF-329 And Product Specific ID	t Growth Regulator, EPA Reg. No. 2724-420 # 2724-RD-48
MRID Number	Study
	McDaniel, J., Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-329, EPA Registration Number 2724-420</u> . Zoecon Study Number 1667. Unpublished. 24 pages.
	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R329 SAN 810 I4.8CB: Skin Sensitization Study in Guinea Pigs . SRI Study No. LSC 2673-M038-91. Zoecon Study No. 1739. Unpublished. 56 pages.
	sted above for ALTOSID Liquid Larvicide, EPA Reg. No. 2724-392 is also applicable to re essentially identical formulations.
Zoecon RF-292 Bri Product Specific ID	quet, EPA Reg. No. 2724-421 # 2724-RD-49
MRID Number	Study
	Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, and Density of RF 292A, EPA Registration Number 2724-421</u> . Zoecon Study Number 1712. Unpublished. 17 pages.
	Nguyen, K. <u>Method for the Assay of S-Methoprene in Briquets</u> . Zoecon Study TR-1275. Unpublished. 70 pages.
Zoecon RF-342 Em Product Specific ID	ulsifiable Concentrate, EPA Reg. No. 2724-427 # 2724-RD-50
MRID Number	<u>Study</u>
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 330, "Procedure for the Analysis for Methoprene in RF 342 (Dianex)"</u> . Zoecon Study Number 1539. Unpublished. 16 pages.
	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of RF-342, EPA Registration Number 2724-427. Zoecon Study Number 1667. Unpublished. 23 pages.
Methoprene Techni Product Specific ID	cal, EPA Reg. No. 2724-441 # 2724-RD-56
MRID Number	<u>Study</u>
	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Olen, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of (R,S)-Methoprene, EPA Registration Number 2724-441. Zoecon Study Number 1669. Unpublished. 21 pages.
	••••••••••••••••••••••••••••••••••••••

Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 284, "Procedure for The Analysis of Technical Methoprene (EPA Registration Numbers 2724-441 and 2724-442)". Zoecon Study Number 1539. Unpublished. 17 pages.</u>

(S)-Methoprene Technical, EPA Reg. No. 2724-442 Product Specific ID# 2724-RD-51

MRID Number

Study

McDaniel, J., Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of (S)-Methoprene, EPA Registration Number 2724-442</u>. Zoecon Study Number 1669. Unpublished. 21 pages.

Zoecon Study 1539 listed above for Methoprene Technical also provides precision and accuracy data for the current analytical procedure for S-Methoprene Technical.

Zoecon RF-437 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 Product Specific ID# 2724-RD-439

Coecon Studies 1667, 1733, 1734, 1735, 1736, 1737 listed above for ALTOSID Liquid Larvicide Concentrate are also applicable to this product, since their formulations are identical. The only difference in the two products is in their labels; ALTOSID Liquid Larvicide is a manufacturing-use product and RF-437 carries an end-use label.

Zoecon Study 1539 listed above for ALTOSID Liquid Larvicide, EPA Reg. No. 2724-392 is also applicable to this product as they are essentially identical formulations.

Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 Product Specific ID# 2724-RD-52

MRID Number

Study

Nguyen, K. Method Validation for the Analysis of (S)-Methoprene in Altosid Pellets and Premix. Zoecon Project Code R330SAN810I4XX. 1413 Report-VMOA. Unpublished. 34 pages.

Schweitzer, M. <u>Product Chemistry of Altosid Pellets</u>. Battelle Study Number SC900157. Zoecon Study Number 1565. Unpublished. 24 pages.

Best regards,

Kelly J. Parker

Regulatory Specialist

Kelly of Parker

800/527-0512

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4dodecadienoate].....

dodecadienoate] 20.0% INERT INGREDIENTS: 80.0%

Contains 1.72 lb/gal (205.2 g/liter) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Cautions

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE RECUMBED FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. *SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS – Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Gulde to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals, of spray solution per acre is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. RIce: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquitoes found in rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

Mixing and Handling Instructions: 1. Add measured amount of Zoecon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water. 2. Use diluted spray solution within 48 hours of mixing. Agitate before each use.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation A Sandoz Company 12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 1091-C:0193E;RED

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

20.0% 80.0%

Contains 1.72 lb/gal (205.2 g/liter) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Cautions

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES • FAMILIARITY • WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. • SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

... NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. Rice: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquitoes found in rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

Mixing and Handiling Instructions: 1. Add measured amount of Zoecon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water. 2. Use diluted spray solution within 48 hours of mixing. Agitate before each use.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by buming. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 1091-C:0193E;RED

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Contains 1.72 lb/gal (205.2 g/liter) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Cautions

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES • FAMILIAPITY • WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLEIATION TIMING AND TREATMENT EVALUATION • SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

... NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS — Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Gulde to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. Rice: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquitoes found in rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

Mixing and Handling Instructions: 1. Add measured amount of Zoecon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water. 2. Use diluted spray solution within 48 hours of mixing. Agitate before each use.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation A Sandoz Company 12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 1091-C:0193E:RED

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

ACTIVE INGREDIENT:

20.0%

Contains 1.72 lb/gal (205.2 g/liter) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Cautions

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWIN-HEGULATOR SR-20, SUCCESSFUL USE RECUMBLES FAMILIARITS WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. • SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: yit is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS — Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Gulde to Product Application.

METHODS OF APPLICATION — Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. Rice: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquitoes found in rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, *refer* to Guide to Product Application.

Mixing and Handling instructions: 1. Add measured amount of Zoecon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water. 2. Use diluted spray solution within 48 hours of mixing. Agitate before each use.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation A Sandoz Company 12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 1091-C:0193E;RED

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides.

After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the <u>number of adults which emerge is the only criterion for accurately assessing control.</u> Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

1	091-0	01	92E;RE	D		
		:	::	•	•••	
		•	•	•••	•••	•
••	• •		•	•••		•••
:	:.		: •	••		:
•	•	•	• •	• `	•	•
• •	• •		•	• •		• •

CHECK LIS

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

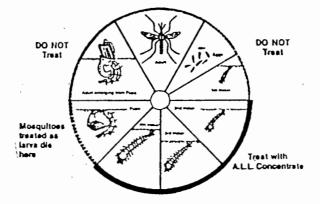
DO the following:

- DO treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
- DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
- DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
- DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

- DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
- DO NOT take dip counts of pupae after treatment for the purpose
 of performance evaluation. Normal looking pupae will be seen but
 these will not develop into normal adults.
- DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
- 4. DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredients reach the water where they are released from the sand. ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

99 lbs. washed, dry sand (20-45 mesh) 0.5 lbs. Zoecon RF-437 (7.5 fluid 02.) 0.5 lbs. Hisil 233 (silicon dioxide) Small Funnel Cernent Mixer

- Measure the time required for a level funnel full of sand to empty.
- Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fluid ounce) of Zoecon RF-437, onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
- Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
- 4. Stop the mixer and add 0.5 lbs. of Hisil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of Hisil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
- Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more Hisil if it flows significantly slower and reduce the amount of Hisil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides.

After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the <u>number of adults which emerge is the only criterion for accurately assessing control.</u> Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

1091-0:e192E;REB

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

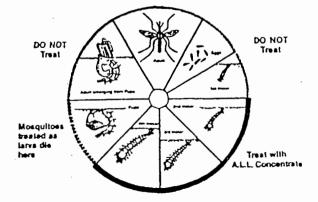
DO the following:

- DO treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
- DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
- DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
- DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

- DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
- DO NOT take dip counts of pupae after treatment for the purpose
 of performance evaluation. Normal looking pupae will be seen but
 these will not develop into normal adults.
- DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
- 4. DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredients reach the water where they are released from the sand. ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

99 lbs. washed, dry sand (20-45 mesh) 0.5 lbs. Zoecon RF-437 (7.5 fluid oz.) 0.5 lbs. Hisil 233 (silicon dioxide) Small Funnel Cement Mixer

- 1. Measure the time required for a level funnel full of sand to empty.
- Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand.
 While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fluid ounce) of Zoecon RF-437, onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
- Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
- 4. Stop the mixer and add 0.5 lbs. of Hisil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of Hisil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
- Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more Hisil if it flows significantly slower and reduce the amount of Hisil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides.

After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the number of adults which emerge is the only criterion for accurately assessing control. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.



CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

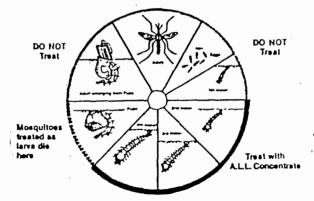
DO the following:

- DO treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
- DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
- DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
- DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

- DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
- 2 DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
- DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
- DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredients reach the water where they are released from the sand. ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

99 lbs. washed, dry sand (20-45 mesh) 0.5 lbs. Zoecon RF-437 (7.5 fluid oz.) 0.5 lbs. Hisil 233 (silicon dioxide) Small Funnel Cement Mixer

- 1. Measure the time required for a level funnel full of sand to empty.
- Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fluid ounce) of Zoecon RF-437, onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
- Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
- 4. Stop the mixer and add 0.5 lbs. of Hisil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of Hisil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
- Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more Hisil if it flows significantly slower and reduce the amount of Hisil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

FOR THE FIRST TIME USER

Zoecon RF-437 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-437, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-437 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

Zoecon RF-437 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-437 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides.

After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

Because the effect of Zoecon RF-437 is neither larval death nor widespread mortality immediately following pupation, the <u>number of adults which emerge is the only criterion for accurately assessing control.</u> Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

	1091-0	091-C 0192E			D		•	
		:	•	•	:	•	•	
		•	• -	•	•••	••	• •	
••	••			•	••	•	•••	• •
•	•	_	•		•	•		
•••	: :	•	•	:	:	• •	:.	:

CHECK LIST

Things to remember when using Zoecon RF-437 Mosquito Growth Regulator SR-20

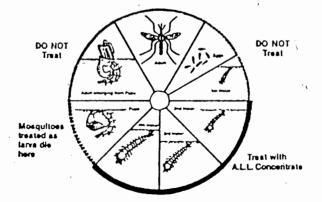
DO the following:

- DO treat second, third and/or fourth instar larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
- 2 DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
- DO observe pupae for several days, since death of IGR treated mosquitoes occurs when pupae would normally emerge as adults. (Careful observation is necessary since dead pupae decompose rapidly and thus are not easily seen.)
- DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

- DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
- DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
- DO NOT think Zoecon RF-437 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
- 4. DO NOT spray again, either with Zoecon RF-437 or a conventional insecticide, because larvae or pupee are present after application. This is normal. The effectiveness of Zoecon RF-437 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-437 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND® Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-437 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-437, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredients reach the water where they are released from the sand. ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100 lb. batch of ALTOSAND:

99 lbs. washed, dry sand (20-45 mesh) 0.5 lbs. Zoecon RF-437 (7.5 fluid oz.) 0.5 lbs. Hisil 233 (silicon dioxide) Small Funnel Cement Mixer

- 1. Measure the time required for a level funnel full of sand to empty.
- 2. Into a rotating-type mixer, place 99 lbs. of dry (20-45 mesh) sand. While the mixer is rotating, slowly pour 0.5 lbs. (7.5 fluid ounce) of Zoecon RF-437, onto the sand. (If better wetting is required, Zoecon RF-437 may be diluted in up to an equal volume of water.)
- Mix until the sand is uniformly coated with Zoecon RF-437 (usually 5 to 10 minutes).
- 4. Stop the mixer and add 0.5 lbs. of Hisil 233. Cover the mixer to reduce dust. Start the mixer and run for approximately 5 minutes. (The quantity of Hisil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture of the sand.)
- Compare the flow rate of the ALTOSAND mixture with that of untreated sand in Step No. 1. Add more Hisil if it flows significantly slower and reduce the amount of Hisil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

20 November 1991

Mr. Willie Nelson
Product Management Team (18)
U.S. Environmental Protection Agency
Document Processing Desk (RED/RD-0030)
Office of Pesticide Programs (H7504C)
Room 266A, Crystal Mall, Bldg. 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

RE: Methoprene Reregistration, List A - Case 0030

Dear Mr. Nelson:

Enclosed in quadruplicate are data in support of reregistration of the subject products containing methoprene as the active ingredient. Please disregard suffixes in the code names for products. Those are strictly internal designations.

Zoecon RF-174 Flea Growth Regulator, EPA Reg. No. 2724-286 Product Specific ID# 2724-RD-7

MRID Number	Study	
	Wilkins, C. Storage Stability of Methoprene EC 65% (RF 174) EPA Reg. No. 2 2724-405, 55947-88, 55947-94. Zoecon Study Number 1747. Unpublished. pages.	
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision a Accuracy for Current Analytical Procedure (CAP) Number 337, "Determination of Methoprene in RF 174 by Gas Chromatography Analysis"</u> . Zoecon Study Number 16 pages.	<u>of</u>
	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Physical State, Odor, Specific Gravity, pH, Flashpoint, and Viscosity of RF 1.74 Registration Numbers 2724-286, 2724-405, 55947-88 and 55947-94. Zoeco Number 1758. Unpublished. 23 pages.	n Study
	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R174 SAN 800 I 66EC Oral Toxicity Study in Male and Female Rats . SRI Study No. LCC 2673-M027 Zoecon Study No. 1728. Unpublished. 41 pages.	Acute -91.
	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R174 SAN 800 I 66EC Primary Skin Irritation Study in Rabbits. SRI Study No. LSC 2673 M029-91. Study No. 1730. Unpublished. 40 pages.	

· 	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R174 SAN 800 I 66EC: Eye Irritation Study in Rabbits.</u> SRI Study No. LSC 2673-M030-91. Zoecon Study No. 1731. Unpublished. 42 pages.
	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R174 SAN 800 I 66EC: Acute Dermal Toxicity Study in Male and Female Rabbits. SRI Study No. LSC 2673-M028-91. Zoecon Study No. 1729. Unpublished. 39 pages.
	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R174 SAN 800 I 66EC: Skin Sensitization Study in Guinea Pigs</u> . SRI Study No. LSC 2673-M031-91. Zoecon Study No. 1732. Unpublished. 60 pages.
	e data are also being submitted in support of Diacon, EPA Reg. No. 55947-94, Product or our sister company, Sandoz Crop Protection Corporation.
Apex 5E, EPA Reg. Product Specific ID	
formulations are identi agent of Sandoz Crop	tical, the registered use sites are different. A letter certifying Zoecon Corporation as an or Protection Corporation, is being provided under separate cover. As their agent, we are lata in support of the Apex 5E registration currently being transferred to Zoecon.
Zoecon RF-274 Fo Product Specific ID	gger, EPA Reg. No. 2724-337 D# 2724-RD-22
MRID Number	Study
	Wilkins, C. <u>Stability of (S)-Methoprene/Permethrin Solvent Based Fogger/Aerosol</u> (RF274B) EPA Reg. No. 2724-337. Zoecon Study Number 1301. Unpublished. 14 pages.
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 63C, "Procedure for the Analysis of Permethrin and Methoprene in RF 274 and RF 280 (Solvent Based Foggers and Aerosols)"</u> . Zoecon Study Number 1539. Unpublished. 21 pages.
	Clark, A. <u>Physical and Chemical Properties Testing for Zoecon RF-274 Fogger</u> . MRI No. 9914-F. Zoecon No. 1672. Unpublished. 13 pages.
	McDaniel, J. <u>Flash Point Determination of Zoecon RF-274 Fogger Concentrate</u> . Zoecon Study Number 1680. Unpublished. 8 pages.
	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R274B SAN 1139 I5.8AE Skin Sensitization Study in Guinea Pigs</u> . SRI Study No. LSC 2673-M037-91. Zoecon Study No. 1738. Unpublished. 55 pages.
Zoecon RF-275 Product Specific II	essurized Spray, EPA Reg. No. 2724-338 D# 2724-RD-23
MRID Number	Study
	Clark, A. Physical and Chemical Properties Testing for Zoecon RF-275 Pressurized Spray. MRI No. 9914-F. Zoecon No. 1674. Unpublished. 15 pages.
	McDaniel, J. Flash Point Determination of Zoecon RF-275 Aerosol Concentrate. Zoecon Study Number 1680. Unpublished. 8 pages.
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 324 "Procedure for the Analysis of Methoprene, Synergist MGK-264, Pyrethrins and PBO in a Water-Based System (Including RF 275)". Zoecon Study Number 1539. Unpublished. 19 pages.</u>
	v

	Nerosol, EPA Reg. No. 2724-339 ID# 2724-RD-24
MRID Number	<u>Study</u>
	Clark, A. <u>Physical and Chemical Properties Testing for Zoecon RF-280 Aerosol</u> . MRI No. 9914-F. Zoecon No. 1671. Unpublished. 13 pages.
	McDaniel, J. Flash Point Determination of Zoecon RF-280 Aerosol Concentrate. Zoecon Study Number 1680. Unpublished. 8 pages.
	1, 1539, and 1738 listed above for Zoecon RF-274 Fogger are also applicable to this difference in the two products is a small difference in the amount of propellant.
	Emulsifiable Concentrate, EPA Reg. No. 2724-352 ID# 2724-RD-25
MRID Number	Study
•	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 329, "Procedure for the Analysis for Methoprene in a Methoprene Emulsifiable Concentrate (RF 291)"</u> . Zoecon Study Number 1539. Unpublished. 16 pages.
	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-291, EPA Registration Number 2724-352. Zoecon Study Number 1667. Unpublished. 23 pages.
Zoecon RF-293 M Product Specific	Methoprene Bolus, EPA Reg. No. 2724-356 ID# 2724-RD-26
	Wilkins, C. Storage Stability of Methoprene Bolus (RF 293) EPA Reg. No. 2724-356. Zoecon Study Number 1744. Unpublished. 19 pages.
	Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, and Density of RF 293, EPA Registration Number 2724-356</u> . Zoecon Study Number 1712. Unpublished. 17 pages.
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 223C, "Procedure for the Analysis of Methoprene in RF 293, (Methoprene Bolus)"</u> . Zoecon Study Number 1539. Unpublished. 16 pages.
Zoecon RF-297 A Product Specific	Aerosol, EPA Reg. No. 2724-360 ID# 2724-RD-27
MRID Number	Study
<u> </u>	Wilkins, C. Storage Stability of (S)-Methoprene/Permethrin Water Based Aerosol (RF297A) EPA Reg. No. 2724-360. Zoecon Number 1308. Unpublished. 14 pages.
	Clark, A. Physical and Chemical Properties Testing for Zoecon RF-297 Aerosol. (MRI). No. 9914-F. Zoecon No. 1673. Unpublished. 15 pages.
	McDaniel, J. Flash Point Determination of Zoecon RF-297 Aerosol Concentrate. Zoecon Study Number 1680. Unpublished. 9 pages.
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Fredsion and Accuracy for Current Analytical Procedure (CAP) Number 310 "Procedure for the Analysis of Water Based Aerosols Containing Permethrin and Methoprene (Including RF. 297)"</u> . Zoecon Study Number 1539. Unpublished. 20 pages.

	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R297 ZOE 014I.47AE: Acute Oral Toxicity Study in Male and Female Rats</u> . SRI Study No. LSC 2561-M008-91. Zoecon Study No. 1675. Unpublished. 34 pages.
	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R297 ZOE 014I.47AE: Acute Dermal Toxicity Study in Male and Female Rabbits</u> . SRI Study No. LSC 2561-M009-91. Zoecon Study No. 1676. Unpublished. 43 pages.
	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R297 ZOE 014I.47AE: Primary Skin Irritation Study in Rabbits.</u> SRI Study No. LSC 2561-M010-91. Zoecon Study No. 1677. Unpublished. 42 pages.
	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R297 ZOE 014I.47AE: Primary Eye Irritation Study in Rabbits.</u> SRI Study No. LSC 2561-M011-91. Zoecon Study No. 1678. Unpublished. 44 pages.
	Schindler, J.E., and Baldwin, R.C. <u>Zoecon Sample No. R297 ZOE 014I.47AE: Skin Sensitization Study in Guinea Pigs.</u> SRI Study No. LSC 2561-M012-91. Zoecon Study No. 1679. Unpublished. 59 pages.
	, EPA Reg. No. 2724-367 ID# 2724-RD-28
	Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, and Density of RF 74, EPA Registration Number 2724-367</u> . Zoecon Study Number 1712. Unpublished. 17 pages.
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 77A, "Procedure for the Analysis of (R,S)-Methoprene in RF 74, (CP10)"</u> . Zoecon Study Number 1539. Unpublished. 16 pages.
Granular IGR Ca Product Specific	ttle Supplement, EPA Reg. No. 2724-372 ID# 2724-RD-30
	Sheehan, T. <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 335</u> , "Procedure for the Analysis for (R,S)-Methoprene in Zoecon's Granular and Block Cattle Supplements EPA REG NOS 2724-372 and 2724-373". Zoecon Study Number 1721. Unpublished. 22 pages.
	Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, and Density for 9118SAN800I0.02GB, Granular Feed Supplement, EPA Registration Number 2724-372</u> . Zoecon Study Number 1726. Unpublished. 17 pages.
Block IGR Cattle Product Specific	Supplement, EPA Reg. No. 2724-373 ID# 2724-RD-31
MRID Number	Study
	Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density for 9119SAN800I0.02BB, Block Feed Supplement, EPA Registration Number 2724-373. Zoecon Study Number 1726. Unpublished. 17 pages.
Zoecon Study 172 precision and accu	1 listed above for Granular IGR Cattle Supplement (EPA Reg. No. 2724-372) also provides racy data for this cattle supplement product. The formulas are essentially identical.

ALTOSID Briquets, EPA Reg. No. 2724-375 Product ID# 2724-RD-33 MRID Number Study Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, and Density of RF 433N, EPA Registration Number 2724-375. Zoecon Study Number 1712. Unpublished. 17 pages. Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 325, "Procedure for the Analysis of Methoprene in RF 433N (30 Day Briquet and Briquet Premix)". Zoecon Study Number 1539. Unpublished. 16 pages. Kabat Tobacco Protector, EPA Reg. No. 2724-377 Product Specific ID# 2724-RD-34 MRID Number Study McDaniel, J., Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-385N, EPA Registration Number 2724-377. Zoecon Study Number 1667. Unpublished. 23 pages. Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and Accuracy for Current Analytical Procedure (CAP) Number 321 "Determination of Methoprene in RF 385N and RF 386N (Kabat)". Zoecon Study Number 1539. Unpublished. 17 pages. Kabat Protector Concentrate, EPA Reg. No. 2724-384 Product Specific ID# 2724-RD-36 MRID Number Study McDaniel, J., Moorman, R., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-386N, EPA Registration Number 2724-384. Zoecon Study Number 1667. Unpublished. 21 pages. Zoecon Study 1539 listed above for Kabat Tobacco Protector provides precision and accuracy data on the analytical method for both products. These two products are identical except in the level of methoprene; the Kabat Tobacco Protector is 5% methoprene and the Concentrate product is 80% methoprene. Altosid Liquid Larvicide, EPA Reg. No. 2724-392 Product Specific ID# 2724-41 MRID Number Study McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-438N, EPA Registration Number 2724-392. Zoecon Study Number 1667. Unpublished. 24 pages. Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., Precision and

Accuracy for Current Analytical Procedure (CAP) Number 328, "Procedure for the Analysis of (S)-Methoprene in RF 437N, RF438N and RF 329 (Alfost Liquid Larvicide SR-20, SR-5 and Pharorid)". Zoecon Study Number 1539. Urpublished. 23 pages.

Altosid Liquid Larvicide Concentrate, EPA Reg. No. 2724-393 Product Specific ID# 2724-42

Product Specific II	J# 2724-42
MRID Number	Study
42108401	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. <u>Color</u> , <u>Physical State</u> , Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of RF-437N, EPA Registration Numbers 2724-393 and 2724-446. Zoecon Study Number 1667. Unpublished. 24 pages.
42108402	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R437N SAN 810 I20CS: Acute Oral Toxicity Study in Male and Female Rats . SRI Study No. LSC 2673-M032-91. Zoecon Study No. 1733. Unpublished. 36 pages.
42/08403	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R437N SAN 810 I20CS: Acute Dermal Toxicity Study in Male and Female Rabbits. SRI Study No. LSC 2673-M033-91. Zoecon Study No. 1734. Unpublished. 41 pages.
42108404	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R437N SAN 810 I20CS: Primary Skin Irritation Study in Rabbits . SRI Study No. LSC 2673-M034-91. Zoecon Study No. 1735. Unpublished. 39 pages.
42108405	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R437N SAN 810 I20CS: Eye Irritation Study in Rabbits . SRI Study No. LSC 2673-M035-91. Zoecon Study No. 1736. Unpublished. 44 pages.
42108406	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R437N SAN 810 I20CS: Skin Sensitization Study in Guinea Pigs . SRI Study No. LSC 2673-M036-91. Zoecon Study No. 1737. Unpublished. 54 pages.
Zoecon Study Number the analytical method	er 1539 listed above for Altosid Liquid Larvicide provides precision and accuracy data on I for both products.
Zoecon RF-299 R7 Product Specific II	TU Carpet Pump Spray, EPA Reg. No. 2724-401 D# 2724-44
MRID Number	Study
	Wilkins, C. Stability of (S)-Methoprene/Permthrin Pump Spray EPA Reg. No. 2724-401. Zoecon Study Number 1283. Unpublished. XX pages.
	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of RF-299, EPA Registration Number 2724-401</u> . Zoecon Study Number 1667. Unpublished. 23 pages.
	Lephart, J. Method Validation for the Analysis of (R,S)-Methoprene or (S)-Methoprene and Permethrin in a RTU Water-based Carpet Spray. Zoecon Project Code R299SAN1129I.26AL. 1303 Report-VMOA. Unpublished. 62 pages.
Zoecon RF-322 O Product Specific II	vicidal Pump Spray, EPA Reg. No. 2724-404 D# 2724-RD-46
MRID Number	Study
	Wilkins, C. Stability of Ovitrol Flea & Tick Pump Spray (RF322) EPA Reg. No. 2724-401 (sic). Zoecon Study Number 1283. Unpublished. XX pages.
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 242B, 'Procedure for the Analysis of S-Methoprene, PBO, Pyrethrins and MGK-264 in Alcohol-Based 'Rump' Spray (Including RF 322)". Zoecon Study Number 1539. Unpublished. 20 pages.</u>

	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. <u>Color</u> , <u>Physical State</u> , <u>Odor</u> , <u>Specific Gravity</u> , <u>pH</u> , <u>Flammability-Flashpoint</u> , <u>and Viscosity of RF-322</u> , <u>EPA Registration Number 2724-404</u> . Zoecon Study Number 1667. Unpublished. 23 pages.
Zoecon RF-329 A Product Specific I	nt Growth Regulator, EPA Reg. No. 2724-420 D# 2724-RD-48
MRID Number	Study
	McDaniel, J., Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, Flammability-Flashpoint, and Viscosity of RF-329, EPA Registration Number 2724-420</u> . Zoecon Study Number 1667. Unpublished. 24 pages.
	Schindler, J.E., and Baldwin, R.C. Zoecon Sample No. R329 SAN 810 I4.8CB: Skin Sensitization Study in Guinea Pigs . SRI Study No. LSC 2673-M038-91. Zoecon Study No. 1739. Unpublished. 56 pages.
	listed above for ALTOSID Liquid Larvicide, EPA Reg. No. 2724-392 is also applicable to are essentially identical formulations.
Zoecon RF-292 B Product Specific I	riquet, EPA Reg. No. 2724-421 D# 2724-RD-49
MRID Number	Study
	Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, and Density of RF 292A, EPA Registration Number 2724-421</u> . Zoecon Study Number 1712. Unpublished. 17 pages.
	Nguyen, K. <u>Method for the Assay of S-Methoprene in Briquets</u> . Zoecon Study TR-1275. Unpublished. 70 pages.
Zoecon RF-342 E Product Specific I	mulsifiable Concentrate, EPA Reg. No. 2724-427 ID# 2724-RD-50
MRID Number	Study
	Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 330, "Procedure for the Analysis for Methoprene in RF 342 (Dianex)"</u> . Zoecon Study Number 1539. Unpublished. 16 pages.
	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehan, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of RF. 342, EPA Registration Number 2724-427. Zoecon Study Number 1667. Unpublished. 23 pages.
Methoprene Tech Product Specific	nical, EPA Reg. No. 2724-441 ID# 2724-RD-56
MRID Number	Study
	McDaniel, J., Moorman, R., Nguyen, K., Thornton, K., Sheehar, T., Lephart, J. Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of (R.S)-Methoprene, EPA Registration Number 2724-441. Zoecon Study Number 1669. Unpublished. 21 pages.

Moorman, R., Thornton, K., Nguyen K., Sheehan, T., Lephart, J., <u>Precision and Accuracy for Current Analytical Procedure (CAP) Number 284, "Procedure for The Analysis of Technical Methoprene (EPA Registration Numbers 2724-441 and 2724-442)". Zoecon Study Number 1539. Unpublished. 17 pages.</u>

(S)-Methoprene Technical, EPA Reg. No. 2724-442 Product Specific ID# 2724-RD-51

MRID Number

Study

McDaniel, J., Moorman, R., Thornton, K., Sheehan, T., Lephart, J. <u>Color, Physical State, Odor, Specific Gravity, pH, Flammability-Flashpoint, and Viscosity of (S)-Methoprene, EPA Registration Number 2724-442</u>. Zoecon Study Number 1669. Unpublished. 21 pages.

Zoecon Study 1539 listed above for Methoprene Technical also provides precision and accuracy data for the current analytical procedure for S-Methoprene Technical.

Zoecon RF-437 Mosquito Growth Regulator SR-20, EPA Reg. No. 2724-446 Product Specific ID# 2724-RD-439

Zoecon Studies 1667, 1733, 1734, 1735, 1736, 1737 listed above for ALTOSID Liquid Larvicide Concentrate are also applicable to this product, since their formulations are identical. The only difference in the two products is in their labels; ALTOSID Liquid Larvicide is a manufacturing-use product and RF-437 carries an end-use label.

Zoecon Study 1539 listed above for ALTOSID Liquid Larvicide, EPA Reg. No. 2724-392 is also applicable to this product as they are essentially identical formulations.

Zoecon RF-330 ALTOSID Pellets, EPA Reg. No. 2724-448 Product Specific ID# 2724-RD-52

MRID Number

Study

Nguyen, K. Method Validation for the Analysis of (S)-Methoprene in Altosid Pellets and Premix. Zoecon Project Code R330SAN810I4XX. 1413 Report-VMOA. Unpublished. 34 pages.

Schweitzer, M. <u>Product Chemistry of Altosid Pellets</u>. Battelle Study Number SC900157. Zoecon Study Number 1565. Unpublished. 24 pages.

Best regards,

Kelly J. Parker

Kelly of Parker

Regulatory Specialist 800/527-0512

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

25 November 1991

Mr. Phil Hutton
Product Manager 18
Insecticide-Rodenticide Branch
Office of Pesticide Programs (H7504C)
Document Processing Desk (6(a)(2))
Room 266A, Crystal Mall 2
U.S. Environmental Protection Agency
1921 Jefferson Davis Highway
Arlington, VA 22202

RE: Adverse Effects Discovered In Toxicology Data

Dear Mr. Hutton:

The following studies were submitted in accordance with the R.E.D. for Methoprene. These studies had surprising results; hence, considered by EPA to be adverse effects. Please note that we have not seen confirmation of these results from product use in the marketplace.

Schindler, J.E. and Baldwin, R.C. <u>Zoecon Sample No. R174 SAN 800 I 66EC:</u>
<u>Primary Skin Irritation Study in Rabbits.</u> SRI Study No. LSC 2673-M029-91.

Zoecon Study No. 1730. Unpublished. 40 Pages. (See note 1.)

Results:

The 72-hour mean irritation score was 1.0 placing this product in Tox Category IV; however, 2 rabbits showed irritation through 21 days after patch removal.

Schindler, J.E. and Baldwin, R.C. <u>Zoecon Sample No. R174 SAN 800 I 66EC: Skin Sensitization Study in Guinea Pigs.</u> SRI Study No. LSC 2673-M031-91. Zoecon Study No. 1732. Unpublished. 60 Pages. (See note 1.)

Results:

This study showed a positive response.

Schindler, J.E. and Baldwin, R.C. <u>Zoecon Sample No. R297 ZOE 01411/37/AE:</u>
<u>Primary Skin Irritation Study in Rabbits.</u> SRI Study No. LSC 2561-M010-91...
Zoecon Study No. 1677. Unpublished. 42 Pages. (See note 2.)

Results:

The 72-hour mean irritation score was 3.8 placing this product in Tox Category III; however, 2 rabbits showed irritation to 21 days after patch removal.

part of transmutal

Schindler, J.E. and Baldwin, R.C. Zoecon Sample No. R437N SAN 810 L20CS: Skin Sensitization Study in Guinea Pigs. SRI International. SRI Study No. LSC 2673-M036-91. Zoecon Study No. 1737. Unpublished. 54 Pages. (See note 3.)

Results:

This study showed a positive response.

Notes:

- Zoecon Sample No. R174 SAN 800 I 66EC is the test material code for EPA Registration Numbers 2724-286 and 55947-88 (Under separate cover, Sandoz Crop Protection Corporation has certified Zoecon Corporation as their agent for this product pending transfer completion).
- 2. Zoecon Sample No. R297 ZOE 014 I .47 AE is the test material code for EPA Registration Number 2724-360.
- Zoecon Sample No. R437N SAN 810 I 20CS is the test material code for EPA Registration Numbers 2724-393, and 2724-446.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

XC with Data:

Mr. Gary Sprock

Registration Specialist

Department of Pesticide Regulation

California Environmental Protection Agency

1220 N Street

Sacramento, CA 95814

[] INDICATES OPTIONAL WORDING

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Outdoor flee control available through PCO's Prevents emergence of adult flees up to 8 weeks outdoors Biorational [approach to] flee control outdoors

ACTIVE INGREDIENT:

INERT INGREDIENTS:

3

(\$)-Methoprene [Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4dodecadienoate].

20.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL
USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES
RECOMMENDED FOR APPLICATION TIMING AND TREATMENT
EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR
CONSULT LOCAL MESCRITO ABOUT ABOUT
AGENCY.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS — Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Gulde to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/nectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

For fleas: apply 1 fluid ounce of RF-379 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

 SHAKE WELL BEFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution.

2. Do not mix with oil; use clean equipment.

Partially fill spray tank with water; then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable.

 Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. Rice: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquito found rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittentity Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater,, mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

CHEMIGATION: Refer to supplemental labeling entitled "Gulde to Product Application" for use directions for chemigazion. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

For Fleas Outdoors: Apply 1 fluid ounce of RF-379 in 20 gallons of water to every 1000 square feet. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs and outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-379 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-379 per 20 gallions of water.

A conventional adulticide labeled for outdoor flea control [, such as Yardex,] can be used with RF-379.

For Outdoor Use Only: Use care when treating around lawn furniture and outdoor carpeting. This product may stain these items.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stary out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

(Store in cool place, away from children. Do not reuse empty container. Wrap and put in trash.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sendoz Company
12200 Denton Drive, Dailas, Texas 75234

EPA Reg. No. 2724-446 U.S. Pats. 3,904,662;3,912,815 0291-C:0193E EPA Est © 1989 Zoecon Made in U.S.A.

152

[] INDICATES OPTIONAL WORDING*

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Outdoor flea control available through PCO's Prevents emergence of adult fleas up to 8 weeks outdoors Biorational Japproach tol flea control outdoors

ACTIVE INGREDIENT:

INERT INGREDIENTS:....

(S)-Methoprene [Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4dodecadienoatel.

20.0%

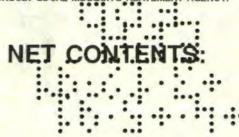
Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE, GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO APPATEMENT AGENCY.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soep and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS — Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals, of spray solution per acre (4.7-46.8 liters/nectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

For fleas: apply 1 fluid ounce of RF-379 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- SHAKE WELL BEFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use clean equipment.
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable.
- Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Pasturee: Zoecon RF-379 may be applied after each flooding without removal of livestock. Files: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquito found rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittentity Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater' mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

CHEMICATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

For Fleas Outdoors: Apply 1 fluid ounce of RF-379 in 20 gallons of water to every 1000 square feet. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs and outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-379 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-379 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [, such as Yardex,] can be used with RF-379.

For Outdoor Use Only: Use care when treating around lawn furniture and outdoor carpeting. This product may stain these items.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

[Store in cool place, away from children. Do not reuse empty container. Wrap and put in trash.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the labet. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 U.S. Pats. 3,904,662;3,912,815 0291-C:0193E EPA Est © 1989 Zoecon Made in U.S.A.

[] INDICATES OPTIONAL WORDING*

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Outdoor flea control available through PCO's Prevents emergence of adult fleas up to 8 weeks outdoors Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4dodecadienoate]... INERT INGREDIENTS:

20.0%

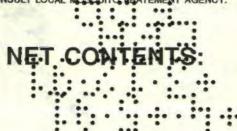
Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO, MEATEMENT AGENCY.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS — Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals, of spray solution per acre (4.7-46.8 liters/nectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

For fleas: apply 1 fluid ounce of RF-379 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- SHAKE WELL BEFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use clean equipment.
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable.
- Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. Rice: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquito found rice, usually writin 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

For Fleas Outdoors: Apply 1 fluid ounce of RF-379 in 20 gallons of water to every 1000 square feet. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs and outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-379 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-379 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [, such as Yardex,] can be used with RF-379.

For Outdoor Use Only: Use care when treating around lawn furniture and outdoor carpeting. This product may stain these items.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

[Store in cool place, away from children. Do not reuse empty container. Wrap and put in trash.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 U.S. Pats. 3,904,662;3,912,815 0291-C:0193E © 1989 Zoecon Made in U.S.A.

[] INDICATES OPTIONAL WORDING

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Outdoor flea control available through PCO's Prevents emergence of adult fleas up to 8 weeks outdoors Biorational (approach to) flea control outdoors

ACTIVE INGREDIENT:

20.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE, GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABSTEMENT AGENCY.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS — Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals, of spray solution per acre (4.7-46.8 liters/nectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

For fleas: apply 1 fluid ounce of RF-379 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- SHAKE WELL BEFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use clean equipment.
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable.
- Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. Rice: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquito found rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittentity Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater-mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

CHEMIGATION: Refer to supplemental labeling entitled "Gulde to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

For Fleas Outdoors: Apply 1 fluid ounce of RF-379 in 20 gallons of water to every 1000 square feet. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs and outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-379 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-379 per 20 gallons of water.

A conventional adulticide labeled for outdoor flee control [, such as Yardex,] can be used with RF-379.

For Outdoor Use Only: Use care when treating around lawn furniture and outdoor carpeting. This product may stain these items.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

[Store in cool place, away from children. Do not reuse empty container. Wrap and put in trash.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 U.S. Pats. 3,904,662;3,912,815 0291-C:0193E EPA Est © 1989 Zoecon Made in U.S.A.

[] INDICATES OPTIONAL WORDING*

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Outdoor flea control available through PCO's Prevents emergence of adult fleas up to 8 weeks outdoors Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

(S) Methoprene [tsopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4dodecadieneate]

20.0%

INERT INGREDIENTS:

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLCIATION TIMING AND TREATMENT EVALUATION. SEE QUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.



PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS — Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupas or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Gulde to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/nectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

For flees: apply 1 fluid ounce of RF-379 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- SHAKE WELL BEFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use clean equipment.
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable.
- Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or carnopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. Rice: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquito found rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

CHEMIGATION: Refer to supplemental labeling entitled "Guide to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

For Fleas Outdoors: Apply 1 fluid ounce of RF-379 in 20 gallons of water to every 1000 square feet. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs and outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-379 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-379 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [, such as Yardex,] can be used with RF-379.

For Outdoor Use Only: Use care when treating around lawn furniture and outdoor carpeting. This product may stain these items.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved weste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Store in cool place, away from children. Do not reuse empty container. Wrap and put in trash.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sendoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 U.S. Pats. 3,904,662;3,912,815 0291-C;0193E EPA Est © 1989 Zoecon Made in U.S.A.

EFFICACY REVIEW

DATE: IN 6-27-91 OUT 11-13-91

FILE OR REG. NO. 2724-446
PETITION OR EXP. PERMIT NO.
DATE DIV. RECEIVED March 12, 1991
DATE OF SUBMISSION March 8, 1991
DATE SUBMISSION ACCEPTED
TYPE PRODUCT(S): (I), D, H, F, N, R, S
DATA ACCESSION NO(S). 418398-01; D165524; S398078; Case # 028442; Action Code 305
PRODUCT MCR. NO. 18-Hutton/Mendelsohn
PRODUCT NAME(S) Zoecon RF-379 Mosquito Growth Regulator SR-20
COMPANY NAME Zoecon Corporation, a Sandoz Company
SUBMISSION PURPOSE Provide performance data in support of claims
for control of fleas outdoors by application
of the subject product to areas frequented by pets.
CHEMICAL & FORMULATION (S)-Methoprene [Isopropy! (2E, 4E 7S)-11- methoxy-3,7,11-trimethy!-2,4-dodecadienoate] 20.0%
6.70 !!!! (!!)

(1.72 lbs. active ingredient per gallon)

CONCLUSIONS & RECOMMENDATIONS The data presented in EPA Accession (MRID) Number 418398-01, having been obtained from simulated field testing conducted according to a company-devised protocol which meets the requirements of § 95-17(b)(1), and (3) to (7) on p. 268 and the standard of § 95-11, under (c)(2)(i) and (ii)(A)(b) on p. 270 of the Product Performance Guidelines, are adequate to support a claim for control of fleas outdoors when the subject product is applied to areas frequented by pets (such as in and around dog houses and runs, shrubs, outside decks and porches) according to label directions. These data are also adequate to demonstrate residual effectiveness against flea larvae in or on soil through 8 weeks following a single application at label rates. Therefore, the alternate label text relative to outdoor flea control is acceptable, including preparation of spray mixture, application directions and rate of application.

RL Vern L. Mc Farland, IRB

DP-BARCODE: D165524

CASE: 028442 DATA PACKAGE RECORD DATE: 06/24/91

SUBMISSION: S398078 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 305 TECH-LBL REV AMND DATA RE

CHEMICALS: 105402 Isopropyl-11-methoxy (2E, 4E, 7S) -3,7,11-trimethyl-2 20.0000%

ID#: 002724-00446 ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

COMPANY: 002724 ZOECON CORPORATION

PRODUCT MANAGER: 18 PHILLIP HUTTON 703-557-2690 ROOM: CM2 207 PM TEAM REVIEWER: MICHAEL MENDELSOHN
RECEIVED DATE: 02/22/2007

703-557-4409 ROOM: CM2 203

RECEIVED DATE: 03/12/91 DUE OUT DATE: 06/10/91

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 165524 EXPEDITE: N DATE SENT: 06/24/91 DATE RET.: / / CHEMICAL: 105402 Isopropyl-11-methoxy (2E, 4E, 7S)-3,7,11-trimethyl-2,4-dodeca

P TYPE: 001 Submission Related Data Package

ADMIN DUE DATE: 08/08/91 LABEL: Y

ASSIGNED TO DATE IN DATE OUT

DIV : RD BRAN: IRB SECT: TS REVR : CONTR:

* * * DATA REVIEW INSTRUCTIONS * * *

Attention Vern McFarland:

Please review the outdoor flea control data and comment proposed label. Thanks.

Mike

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC BRANCH/SECTION DATE OUT DUE BACK INS CSF LABEL

Please read instructions on reverse be	fore completing form			For	m Approve	ed. OMB No. 2070-0	060.	Approval expires 6-30-90
	United S Off	tates ice of W	Environmenta Pesticide Prog /ashington, DC	Protections (TS) 20460	on Agency -767)	130		Identifier Number
ŞEPA	Application			73 - 15	Regi	stration ndment		143315-/
	S MI Z		Section	F-7/A-Ph	Airio	name in		
1. Company/Product Number	2. Date	000	Occupi	3. Produ	ct Manage	r 4-40. h	4. Pro	oposed Classification
2724-446	8 March	199	1	Hutt	on/17		X	General Restricted
5. Name and Address of Applicant (Inc.	lude ZIP Code)	la la	1 1 12	EARLES	CALL STREET	1 1 1 1 1 1 1		
Zoecon Corp A Sandoz Co 12200 Dento Dallas, TX	mpany n Drive					rum (* 10010)		
6. Product Name			9/	100	B. LOPE		E .	AND LAND
Zoecon RF-3	79 Mosquito G	row	th Regula	itor S	R-20			
		_	- Amendme			BRARELL	SCT.	
1. Subject							Date	of Letter
Resubmission in response to Agency letter	Final printed in response to	abel Age	ncy letter	XO	ther (explai	in below)		The state of
			Section		16.01	to Tavallina A.	lo Tu	pe of Container
Material This Product Will Be Packa Child-Resistant Packaging	Unit Packaging			Water-Sc	oluble Pac	kaging	X	Metal
		No		TY			X	Plastic
Yes X No	If "Yes,"		MARKET ST	If "Yes,"	TA I		1	Glass
	Unit package wgt	age wgt No. per container			Package weight No. per container			Paper Other (Specify)
3. Location of Net Contents Information	n 4. Size(s) of Retail (Conta	iner	all history		and market and	1000	
X Label Container	1 oz. to	55	gallon				1	
5. Location of Label Directions		6. Ma	anner in Which	Label Is	_			
X On Label		V	Lithograph Paper glued		Oth	er (Specify)		
X On material accompanying prod	duct	^	Stenciled			and the same of the		
Control of the second second		10.	Section	IV	175.00	N P 4 / B + 4		
1. Contact Point (Complete items of	directly below for iden	tificati			BY SEE	The state of	100	
contacted, if nece	ssary, to process this				15/18		•	•• •••
Name								
Kelly J. Par	rker		FARE				:: :	
Title		10-30		Telepho	ne No. (Inc	clude Area Code)	Je D	ate Application Received
Regulatory :	Specialist				4/888-8			Stamped)
I certify that the statements I had complete. I acknowledge that a imprisonment or both under appli	ny knowingly false o	m an	d all attachm	ents there	eto are tru be punis	e, accurate, and hable by fine or		
2. Signature	THE PURING	7/8	4 - 1 1	3. Title	The state of	1.174 172 734	1	
Kelly C	7 Park	er			latory			ii.
4. Typed Name Kelly J. Pa	rker			5. Date :	3/8/	91	7.5	
		_			1 1			

Paperwork Reduction Act Notice and Instructions

Paperwork Reduction Act Notice

Public reporting burden for this collection of information is estimated to average of 0.85 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

Instructions

General

This form is to be used for all applications for new and amended registrations for pesticide products.

In order to process an application for new registration submitted on this form, the following material must accompany the application:

- Offer to Pay Statement (EPA Form 8570-27, -28, -29). (If not exempted by 40 CFR 162.9-1(b).)
- 2. Confidential Statement of Formula (EPA Form 8570-4).
- Five copies of draft labeling.
- 4. Three copies of any data submitted.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on $8\ 1/2\ x\ 11$ inch paper or as a mockup of the proposed label. If prepared as a mockup it should be constructed in such a way as to facilitate storage in an $8\ 1/2\ x\ 11$ inch file. Mockup labels significantly smaller than $8\ 1/2\ x\ 11$ inches should be mounted on $8\ 1/2\ x\ 11$ inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

Specific

Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, Section I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

Section I - This Section must be completed for both Registration and Amended Registration actions.

- Company/Product Number Insert your company number, if
 one has been assigned. This number may have been assigned
 to yours as a basic registrant, a distributor, or as an establishment. If application is for an amendment, insert the registration pumber of the product.
- 2. Date Fill in the appropriate date.
- 3. Broduct Manager of known, fill in the name and number of tife 1700 fet Mainger.
- 4. Proposed Classification Specify the proposed classification for this product.
- The name of the firm or person and address shown in your application is the person or firm to whom registration will be issued. If you are acting in behalf of another party, you must submit authorization from tight party to act for them in registration matters.

EPA Form 8570-1 (Rev. 9-88)

- An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

Amendment Information

Section II - This Section must be completed for all applications submitted in connection with Amended Registration.

 Subject of Amendment - Check the appropriate block, and provide a brief explanation of the purpose(s) for the amendment, such as: "the addition of a site, pest, or crop"; "to change inert ingredient"; "general label revisions of precautionary statements," etc.

Packaging and Container Information

Section III - This Section must be completed for all applications submitted in connection with New Registration.

- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
- Type of Retail Container Indicate type of container in which product will be marketed.
- Location of Net Contents Specify the net contents of all retail containers for your product.
- Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- Location of Use Directions Indicate the location of the use directions for your product.
- Manner in which label is affixed to product Indicate the method product labeling is attached to retail container.

Contact Point

Section IV - This Section must be completed for all Registration and Amended Registration applications.

- 1-5. Self-explanatory.
- 6. EPA Use Only.

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

8 March 1991

Mr. Phil Hutton
Product Manager (17)
Insecticide-Rodenticide Branch
Registration Division (H7505C)
U.S. Environmental Protection Agency
Crystal Mall, Bldg. 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

RE: Zoecon RF-379 Mosquito Growth Regulator, EPA Reg. No. 2724-446 Amendment to Add Outdoor Flea Use

Dear Mr. Hutton:

We have the opportunity to market an outdoor flea control product containing (S)-methoprene. Zoecon RF-379 is a microencapsulated product thus allowing slow-release and protection of (\underline{S})-methoprene.

Efficacy data are provided supporting the outdoor use of this product at a rate one fluid ounce per 1000 square feet of yard (6 mg a.i./sq. ft. of surface area). The data were generated on ALTOSID Liquid Larvicide (A.L.L.), EPA Reg. No. 2724-392, containing 5% (S)-methoprene. Zoecon RF-379 is the same as A.L.L. except RF-379 contains 20% (S)-methoprene. The RF-379 is a more economical product since it is more concentrated; therefore, it was chosen over the A.L.L. as the product to take to market.

The current label addresses only mosquito use. The flea control use would be alternate language to the mosquito use language. Therefore, the flea-use label as marketed would consist of the following information:

- 1. Name (without mosquito growth regulator) e.g. "YardCor"
- 2. Flea Claims Three claims related to fleas
- 3. Ingredient statement & Net Wt.
- 4. Precautionary Statements
- 5. Directions for Use Heading ...
- 6. Application Rate for fleas.
- 7. Mixing and Handling Instruction
- 8. Directions for flea use
- 9. Storage and Disposal..
- 10. Administrative information

I've highlighted the new language related to the flea use and blocked the flea-use areas noted above on a label for reference.

To streamline the label, we changed the heading, "Instructions for Use" to "Mixing and Handling Instructions", a more appropriate heading. We have moved these instructions after the "Application Rate" section. We have deleted the old mixing and handling instructions section since it is a reiteration of the instructions already provided.

Chemigation instructions have been added to the Guide to Product Application in reference to the mosquito use. This is the standard referral statement from PR Notice 87-1. The flea-use product will be used only on residential yards; therefore, the chemigation statement will not be included in the flea-use label.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

ZOECON RF-379 4 MOSQUITO GROWTH

[] INDICATES OPTIONAL WORDING*

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Outdoor flea control available through PCO's Prevents emergence of adult fleas up to 8 weeks outdoors Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4-

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL
USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES
RECOMMENDED FOR APPLCIATION TIMING AND TREATMENT
EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR
CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS: ...

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION – Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/nectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

For fleas: apply 1 fluid ounce of RF-379 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- SHAKE WELL BEFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution.
 Do not mix with oil; use clean equipment.
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable.
- Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Pastures: Zoecon BF-379 may be applied after each flooding without removal of livestocke files: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar tarvase of mosquito found rice, usually within 4 days after flooding. Use easy where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine aleas, treat high salt marsh or tidal marsh above high tide water level.

CHEMIGATION: Refer to supplemental labeling entitled "Gulde to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

For Fleas Outdoors: Apply 1 fluid ounce of RF-379 in 20 gallions of water to every 1000 square feet. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs and outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-379 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-379 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [, such as Yardex,] can be used with RF-379.

For Outdoor Use Only: Use care when treating around lawn furniture and outdoor carpeting. This product may stain these items.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

[Store in cool place, away from children. Do not reuse empty container. Wrap and put in trash.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation A Sandoz Company 12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 U.S. Pats. 3,904,662;3,912,815 0291-C:0193E

10

EPA Est © 1989 Zoecon Made in U.S.A.

163

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

8 March 1991

Mr. Phil Hutton
Product Manager (17)
Insecticide-Rodenticide Branch
Registration Division (H7505C)
U.S. Environmental Protection Agency
Crystal Mall, Bldg. 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

RE: Zoecon RF-379 Mosquito Growth Regulator, EPA Reg. No. 2724-446 Amendment to Add Outdoor Flea Use

Dear Mr. Hutton:

We have the opportunity to market an outdoor flea control product containing (S)-methoprene. Zoecon RF-379 is a microencapsulated product thus allowing slow-release and protection of (S)-methoprene.

Efficacy data are provided supporting the outdoor use of this profluct at a rate one fluid ounce per 1000 square feet of yard (6 mg a.i./sq. ft. of surface area). The data were generated on ALTOSID Liquid Larvicide (A.L.L.), EPA Reg. No. 2724-392, containing 5% (S)-methoprene. Coecon RF-379 is the same as A.L.L. except RF-379 contains 20% (S)-methoprene. The RF-379 is a more economical product since it is more concentrated; therefore, it was chosen over the A.L.L. as the product to take to market.

The current label addresses only mosquito use. The flea control use would be alternate language to the mosquito use language. Therefore, the flea-use label as marketed would consist of the following information:

- Name (without mosquito growth regulator) - e.g. "YardCor"
- 2. Flea Claims Three claims related to fleas
- 3. Ingredient statement & Net Wt.
- 4. Precautionary Statements
- 5. Directions for Use Heading
- 6. Application Rate for fleas.
- 7. Mixing and Handling Instruction
- 8. Directions for flea use
- 9. Storage and Disposat...
- 10. Administrative information

I've highlighted the new language related to the flea use and blocked the flea-use areas noted above on a label for reference.

To streamline the label, we changed the heading, "Instructions for Use" to "Mixing and Handling Instructions", a more appropriate heading. We have moved these instructions after the "Application Rate" section. We have deleted the old mixing and handling instructions section since it is a reiteration of the instructions already provided.

Chemigation instructions have been added to the Guide to Product Application in reference to the mosquito use. This is the standard referral statement from PR Notice 87-1. The flea-use product will be used only on residential yards; therefore, the chemigation statement will not be included in the flea-use label.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

[] INDICATES OPTIONAL WORDING*

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Outdoor flea control available through PCO's Prevents emergence of adult fleas up to 8 weeks outdoors Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

4.

(S)-Methoprene (Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4-

dodecadienoatej......INERT INGREDIENTS:....

20.0% 80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLCIATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABASEMENT, AGENCY.

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS — Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION - Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/nectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

For fleas: apply 1 fluid ounce of RF-379 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- SHAKE WELL BEFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use clean equipment.
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable.
- Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Pastures: Zoecon RF-379 may be applied after each flooding without removal of livestock. Rice: Zoecon RF-379 must be applied to and 3rd and/or 4th instar larvae of mosquito found rice, usually within 4 ctays after flooding. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches, and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

CHEMIGATION: Refer to supplemental labeling entitled "Gulde to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

For Heas Outdoors: Apply 1 fluid ounce of RF-379 in 20 gallons of water to every 1000 square feet. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs and outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-379 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-379 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control [, such as Yardex,] can be used with RF-379.

For Outdoor Use Only: Use care when treating around lawn furniture and outdoor carpeting. This product may stain these items.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and ispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

(Store in cool place, away from children. Do not reuse empty container. Wrap and put in trash.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 U.S. Pats. 3,904,662;3,912,815 0291-C:0193E

10

EPA Est © 1989 Zoecon Made in U.S.A.

166

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

8 March 1991

Mr. Phil Hutton Product Manager (17) Insecticide-Rodenticide Branch Registration Division (H7505C) U.S. Environmental Protection Agency Crystal Mall, Bldg. 2 1921 Jefferson Davis Hwy. Arlington, VA 22202

RE: Zoecon RF-379 Mosquito Growth Regulator, EPA Reg. No. 2724-446 Amendment to Add Outdoor Flea Use

Dear Mr. Hutton:

We have the opportunity to market an outdoor flea control product containing (S)-methoprene. Zoecon RF-379 is a microencapsulated product, thus allowing slow-release and protection of (S)-methoprene.

Efficacy data are provided supporting the outdoor use of this product at a rate one fluid ounce per 1000 square feet of yard (6 mg a.i./sq. ft. of... surface area). The data were generated on ALTOSID Liquid Larvicide . (A.L.L.), EPA Reg. No. 2724-392, containing 5% (S)-methoprene. Zoecon RF-379 is the same as A.L.L. except RF-379 contains 20% (S)-methoprene. The RF-379 is a more economical product since it is more concentrated; therefore, it was chosen over the A.L.L. as the product to take to market.

The current label addresses only mosquito use. The flea control use would be alternate language to the mosquito use language. Therefore, the flea-use label as marketed would consist of the following information:

- 1. Name (without mosquito growth regulator) - e.g. "YardCor"
- Flea Claims Three claims related to fleas
- Ingredient statement & Net Wt.
- 4. Precautionary Statements
- Directions for Use Heading
 Application Rate for fleas
- 7. Mixing and Handling instruction
- 8. Directions for flee-use
- 9. Storage and Disposal.
- 10. Administrative information .

I've highlighted the new language related to the flea use and blocked the flea-use areas noted above on a label for reference.

To streamline the label, we changed the heading, "Instructions for Use" to "Mixing and Handling Instructions", a more appropriate heading. We have moved these instructions after the "Application Rate" section. We have deleted the old mixing and handling instructions section since it is a reiteration of the instructions already provided.

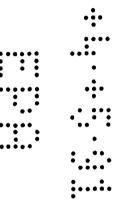
Chemigation instructions have been added to the Guide to Product Application in reference to the mosquito use. This is the standard referral statement from PR Notice 87-1. The flea-use product will be used only on residential yards; therefore, the chemigation statement will not be included in the flea-use label.

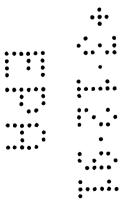
Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512





[] INDICATES OPTIONAL WORDING*

PREVENTS EMERGENCE OF ADULT FLOODWATER MOSQUITOES

Outdoor flea control available through PCO's Prevents emergence of adult fleas up to 8 weeks outdoors Biorational [approach to] flea control outdoors

ACTIVE INGREDIENT:

20.0% 80.0%

Formulation contains 1.72 lb/gal (205.2 g/l) active ingredient

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Precautionary Statements

BECAUSE OF THE UNIQUE MODE OF ACTION OF ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20, SUCCESSFUL USE REQUIRES FAMILIARITY WITH SPECIAL TECHNIQUES RECOMMENDED FOR APPLICATION TIMING AND TREATMENT EVALUATION. SEE GUIDE TO PRODUCT APPLICATION OR CONSULT LOCAL MOSQUITO ABATEMENT AGENCY.

NET CONTENTS: ...

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDED APPLICATIONS - Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

METHODS OF APPLICATION – Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre (4.7-46.8 liters/nectare) is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

APPLICATION RATE: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

For fleas: apply 1 fluid ounce of RF-379 per 1000 square feet in water as directed.

MIXING AND HANDLING INSTRUCTIONS:

- SHAKE WELL BEFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution.
- 2. Do not mix with oil; use clean equipment.
- Partially fill spray tank with water; then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable.
- . Spray solution should be used within 48 hours; always agitate before spraying.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

APPLICATION SITES - Pasteres Zoecon RF-379 may be applied after each flooding without rendovation lives occ. Fig. 2: Zoecon RF-379 must be applied to 2nd, 3ed and/or 4th instar lawrae of mosquito found rice, usually within 4 days after modified. Use only where multiple flooding rice culture is practical. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

g growth

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

CHEMIGATION: Refer to supplemental labeling entitled "Gulde to Product Application" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

For Fleas Outdoors: Apply 1 fluid ounce of RF-379 in 20 gallons of water to every 1000 square feet. Pay particular attention to areas where pets frequent, such as, in and around dog houses and runs, and around shrubs and outside decks, and porches.

When using a hose-end sprayer, place required amount of RF-379 in bottle, add at least an equal amount of water and apply at low pressure, making sure to apply at 1 ounce of RF-379 per 20 gallons of water.

A conventional adulticide labeled for outdoor flea control (, such as Yardex,) can be used with RF-379.

For Outdoor Use Only: Use care when treating around lawn furniture and outdoor carpeting. This product may stain these items.

STORAGE & DISPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

(Store in cool place, away from children. Do not reuse empty container. Wrap and put in trash.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 U.S. Pats. 3,904,662;3,912,815 0291-C:0193E

EPA Est © 1989 Zoecon Made in U.S.A.

Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

8 March 1991

Mr. Phil Hutton
Product Manager (17)
Insecticide-Rodenticide Branch
Registration Division (H7505C)
U.S. Environmental Protection Agency
Crystal Mall, Bldg. 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

RE: Zoecon RF-379 Mosquito Growth Regulator, EPA Reg. No. 2724-446
Amendment to Add Outdoor Flea Use

Dear Mr. Hutton:

We have the opportunity to market an outdoor flea control product containing (S)-methoprene. Zoecon RF-379 is a microencapsulated product, thus allowing slow-release and protection of (S)-methoprene.

Efficacy data are provided supporting the outdoor use of this product at a rate one fluid ounce per 1000 square feet of yard (6 mg a.i./sq. ft. of surface area). The data were generated on ALTOSID Liquid Larvicide (A.L.L.), EPA Reg. No. 2724-392, containing 5% (S)-methoprene. Zoecon RF-379 is the same as A.L.L. except RF-379 contains 20% (S)-methoprene. The RF-379 is a more economical product since it is more concentrated; therefore, it was chosen over the A.L.L. as the product to take to market.

The current label addresses only mosquito use. The flea control use would be alternate language to the mosquito use language. Therefore, the flea-use label as marketed would consist of the following information:

- Name (without mosquito growth regulator) - e.g. "YardCor"
- 2. Flea Claims Three claims related to fleas
- 3. Ingredient statement & Net Wt.
- 4. Precautionary Statements
- 5. Directions for Use Heading
- 6. Application Rate for fleas
- 7. Mixing and Handling Instruction
- 8. Directions for flea use
- 9. Storage and Disposal: | ;
- 10. Administrative information

I've highlighted the new language related to the flea use and blocked the flea-use areas noted above on a label for reference.

To streamline the label, we changed the heading, "Instructions for Use" to "Mixing and Handling Instructions", a more appropriate heading. We have moved these instructions after the "Application Rate" section. We have deleted the old mixing and handling instructions section since it is a reiteration of the instructions already provided.

Chemigation instructions have been added to the Guide to Product Application in reference to the mosquito use. This is the standard referral statement from PR Notice 87-1. The flea-use product will be used only on residential yards; therefore, the chemigation statement will not be included in the flea-use label.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

Study Title

Efficacy of Juvenoids in Soil-filled Peat Pots for Outdoor Control of Cat Fleas

Data Requirement

N/A

Authors

Roger W. Meola Bill Donahue

Study Completion Date

8 February 1990

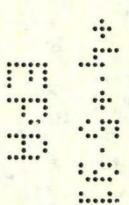
Performing Laboratory

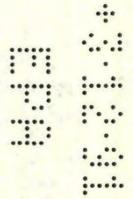
Texas A & M University
Department of Entomology
College Station, TX 77843

Project ID/Description

Compound Screening

Page 1 of 7





Zoecon Corporation

A SANDOZ Company

12200 Denton Drive, Dallas, Texas 75234, (214) 243-2321

3 April 1991

Edith Minor
Team Leader
Front End Processing Staff
Registration Support Branch
Registration Division (H7504C)
U.S. Environmental Protection Agency
Crystal Mall, Bldg. 2
1921 Jefferson Davis Highway
Arlington, VA 22202

RE:

RF-379 Mosquito Growth Regulator SR-20

EPA Reg. No. 2724-446

Rejection of Application No. 143315 due to noncompliance with PR Notice

86-5

Dear Ms. Minor:

The application for the subject product is being resubmitted for review.

I have signed the statement of confidentiality claim.

The supplemental confidentiality claim does follow guidance from PR Notice 86-5 and can be found on page 3 of 6 of the confidential attachment.

The GLP statement, normally page 3, is not necessary for this type of efficacy study. As defined in the Federal Register notice dated 17 August 1989, the final rule, §160.3 states that only product performance studies as required by 40 CFR §158.640 are considered "studies". Further, §160.12 states that "...data from a study to which this part applies shall include in the application a true and correct statement, signed by the applicant, the sponsor, and the study director...." Since the data submitted with this application do not adhere to the definition of a study under GLP regulations the GLP statement is not required.

Best regards,

Kelly J. Parker

Regulatory Specialist

800/527-0512

Prevents Emergence of Adult Floodwater Mosquitoes

ACTIVE INGREDIENT:

(S)-Methoprene [Isopropyl (2E, 4E, 7S)-	
11-methoxy-3,7,11-trimethy1-2,4-	
dodecadienoate]	20%
INERT INGREDIENTS:	80%

Contains 1.72 lb/gal (205.2 g/liter) active ingredient

KEEP OUT OF REACH OF CHILDREN

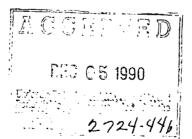
CAUTION

See Back Panel For Additional Cautions

Because of the unique mode of action of Zoecon RF-379 Mosquito Growth Regulator SR-20, successful use requires familiarity with special techniques recommended for application timing and treatment evaluation. See Guide to Product Application or consult local Mosquito Abatement Agency.









HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Instructions for Use -- 1. SHAKE WELL BRFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution. 2. Do not mix with oil; use clean equipment. 3. Partially fill spray tank with water, then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable. 4. Spray solution should be used within 48 hours. Always agitate before spraying.

RECOMMENDED APPLICATIONS — Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

Methods of Application — Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

Application Rate: Apply 3/4 to 1 fl.oz. of Loecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

Application Sites -- Pastures: Zoecon RF-379 may be applied after each flooding without removal of grazing livestock.

Rice: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquitoes found in rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practiced. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Moncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

Mixing and Handling Instructions: 1. Add measured amount of Loecon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water.

2. Use diluted spray solution within 48 hours of mixing. Agitate before each use.

STORAGE & DSPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer to recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-446 U.S. Pats. 3,904,662;3,912,815 0590-B:0145E

EPA Est c 1989 Zoecon Made in U.S.A. 174



GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-379 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-379, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-379 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

Zoecon RF-379 differs from other larvicides you may have used only in the manner and time course of its action <u>after</u> application.

Zoecon RF-379 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides.

After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

Because the effect of Zoecon RF-379 is neither death nor widespread mortality immediately following pupation, the <u>number of adults which emerge is the only criterion for accurately assessing control</u>. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

CHECKLIST

Things to remember when using Zoecon RF-379 Mosquito Growth Regulator SR-20

DO the following:

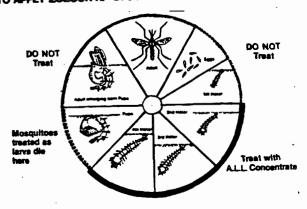
- <u>00 treat second, third and/or fourth larvae</u>, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
- DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
- 00 observe pupae for several days, since death of IGR treated mosquitoes occurs
 when pupae would normally emerge as adults. (Careful observation is necessary
 since dead pupae decompose rapidly and thus are not easily seen.)
- DO monitor emerging adults at the treatment site. This absolutely requires that
 emergence traps be placed in treatment areas to capture adult mosquitoes as they
 emerge.

DO NOT do the following:

- 1. DO NOT take dip counts of lagrace after treatment for the purpose of performance evaluation. Normal looking larvag will be present.

 2. DO NOT take dip counts of pupae after treatment for the purpose of performance
- DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
- 3. DO NOT think Zoecon RF=379 has failed if some adult mosquitoes are flying in treated areas. humbers 2 and 4 of the "DO" specklist are the only methods of accurately assessing effectiveness.
- 4. DO NOT spray again, Either with Zoeton RF-379 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-379 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-379 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-379, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredients reach the water where they are released from the sand. ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100-pound batch of ALTOSAND: 99 lbs. washed, dry sand (20-45 mesh)
0.5 lbs. Zoecon RF-379, (7.5 fluid oz.)
0.5 lbs. Hisil 233 (silicon dioxide)
Small funnel
Cement mixer

- 1. Measure the time required for a level funnel full of sand to empty.
- Into a rotating-type mixer place 99 pounds of dry (20-45 mesh) sand. While the
 mixer is rotating, slowly pour 0.5 pound (7.5 fluid ounces) Zoecon RF-379, onto
 the sand. (If better wetting is required, Zoecon RF-379 may be diluted in up to
 an equal volume of water.)
- Mix until the sand is uniformly coated with Zoecon RF-379 , (usually five to ten minutes).
- 4. Stop the mixer and add 0.5 pound of Hisil 233. Cover the mixture to reduce dust. Start the mixer and run for approximately five minutes. (The quantity of Hisil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture on the sand.)
- Compare the flow rate of the ALTOSAND mixture with that of untreated sand in step No. 1. Add more Hisil if it flows significantly slower and reduce the amount of Hisil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of eight to ten pounds of the final mixture per acre using standard granular dispersal equipment.



DEC 5 1990

Ms. Kelly Parker Zoecon Corporation A Sandoz Company 12200 Denton Drive Dallas, TX 75234

Dear Ms. Parker:

Subject: Zoecon RF-379 Mosquito Growth Regulator SR-20 EPA Registration No. 2724-446 Your Submission Dated May 20, 1990

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable. A stamped copy is enclosed for your records.

Sincerely yours,

Phil Hutton

Product Manager (17)

Insecticide-Rodenticide Branch Registration Division (H7505C)

Enclosure

57697:I:A-4:Nelson:C.Disk:KENCO:10/17/90:de:vo:ek:de

CONCURRENCES									
SYMBOL				13-31-01-5					
SURNAME			7 m						
DATE					**************			176	
EDA Form	1320-1 (12-70)						OFFICE	176	

Prevents Emergence of Adult Floodwater Mosquitoes

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Back Panel For Additional Cautions

Because of the unique mode of action of Zoecon RF-379 Mosquito Growth Regulator SR-20, successful use requires familiarity with special techniques recommended for application timing and treatment evaluation. See Guide to Product Application or consult local Mosquito Abatement Agency.



DEC 05 1990

Under the Federal Invecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No.

PRECAUTIONAL STATEMENTS

MANAGER TO MINNES - CAUTION: Causes moderate sys irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after bandling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Instructions for Use -- 1. SMAKE MELL MEFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution. 2. Do not mix with oil; use clean equipment. 3. Partially fill spray tank with water, then add the recommended amount of Soecon RF-379, agitate and complete filling. Mild agitation during application is desirable. 4. Spray solution should be used within 48 hours. Always agitate before apraying.

PRECOMMENDED APPLICATIONS - Introduction: Eoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupal or adult mosquitoes. Eoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product application.

Methods of Application -- Aerial: Use the recommended amount of Ececom RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Scacon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

Application Bate: Apply 3/4 to 1 fl.os. of Soecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

Application Sites — Pastures: Soucon RF-379 may be applied after each flooding without removal of grazing livestock.

Rice: Zoecom RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of macquitoes found in rice, usually within 4 days after flooding. Use unly where multiple flooding rice culture is practiced. Zoecom RF-379 treatment may be repeated with each flooding. Bo not apply after rice reaches the heading stage of growth.

Intermittently Flooded Monorop Areas: Socon RF-379 may he applied as directed above when flooding may result in floodwater mosquito hetch. Typical sites include freshwater swampe and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Dense vegetation or campy areas: Apply a Socoon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

Mixing and Mandling Instructions: 1. Add measured amount of Socon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water.

2. Use diluted spray solution within 48 hours of mixing. Agitate before each use.

STORAGE & DESPOSAL: Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer to recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of make. Mastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Roscon Corporation
A Sandor Company
12200 Denton Drive, Dellas, Texas 75234

EPA Reg. No. 2724-446 U.S. Pats. 3,904,662;3,912,815 0590-8:0145E EPA Est c 1989 Boscon Hade in U.S.A.77

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-379 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-379, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-379 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

Zoecon RF-379 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-379 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides.

After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

Because the effect of Zoecon RF-379 is neither death nor widespread mortality immediately following pupation, the <u>number of adults which emerge is the only criterion for accurately assessing control</u>. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

CHECKLIST

Things to remember when using Zoecon RF-379 Mosquito Growth Regulator SR-20

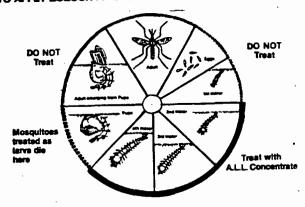
DO the following:

- DO treat second, third and/or fourth larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
- D0 wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
- DO observe pupae for several days, since death of IGR treated mosquitoes occurs
 when pupae would normally emerge as adults. (Careful observation is necessary
 since dead pupae decompose rapidly and thus are not easily seen.)
- DO monitor emerging adults at the treatment site. This absolutely requires that emergence traps be placed in treatment areas to capture adult mosquitoes as they emerge.

DO NOT do the following:

- 1. DO NOT take dip counts of larvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
- DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
- 3. DO NOT think Zoecon RF-379 has failed if some adult mosquitoes are flying in treated areas; they probably have flown in from nearby untreated areas. Numbers 2 and 4 of the "DO" the chilst are the only methods of accurately assessing effectiveness.
- 4. DO NOT spray again, either with Zoecon RF-379 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-379 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-379 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-379, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredients reach the water where they are released from the sand. ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100-pound batch of ALTOSAND:

99 lbs. washed, dry sand (20-45 mesh)

0.5 lbs. Zoecon RF-379, (7.5 fluid oz.)

0.5 lbs. Hisil 233 (silicon dioxide)

Small funnel Cement mixer

- 1. Measure the time required for a level funnel full of sand to empty.
- Into a rotating-type mixer place 99 pounds of dry (20-45 mesh) sand. While the
 mixer is rotating, slowly pour 0.5 pound (7.5 fluid ounces) Zoecon RF-379, onto
 the sand. (If better wetting is required, Zoecon RF-379 may be diluted in up to
 an equal volume of water.)
- Mix until the sand is uniformly coated with Zoecon RF-379, (usually five to ten minutes).
- 4. Stop the mixer and add 0.5 pound of Hisil 233. Cover the mixture to reduce dust. Start the mixer and run for approximately five minutes. (The quantity of Hisil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture on the sand.)
- Compare the flow rate of the ALTOSAND mixture with that of untreated sand in step No. 1. Add more Hisil if it flows significantly slower and reduce the amount of Hisil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of eight to ten pounds of the final mixture per acre using standard granular dispersal equipment.



DP BARCODE: D155971

CASE: 028442 DATA PACKAGE RECORD DATE: 09/25/90

SUBMISSION: S277863 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 160 NEW PRODUCT - ROUTINE "ME TOO"

CHEMICAL:

ID#: 002724-00446

COMPANY: 002724 ZOECON CORPORATION

PRODUCT MANAGER: 17 PHILLIP HUTTON 703-557-2690 ROOM: CM#2 207 PM TEAM REVIEWER: PATRICIA BAGLEY 703-557-4412 ROOM: CM#2 201

RECEIVED DATE: 10/31/89 DUE OUT DATE: / /

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 155971 EXPEDITE: N DATE SENT: 09/25/90 DATE RET.: / /

DP TYPE: 001 Submission Related Data Package

ADMIN DUE DATE: 11/09/90 CSF: N LABEL: Y ASSIGNED TO DATE IN

ASSIGNED TO DATE IN DIV : RD REVR : MCLIFFOR /

BRAN: RSB CONTR:

SECT: PCRS

* * * DATA PACKAGE REVIEW INSTRUCTIONS * * *

Label Review

THERE ARE NO ADDITIONAL DATA PACKAGE RECORDS

Office of Pesticide Programs (TS-767) Washington, DC 20460						OPP	OPP Identifier Number		
\$EPA	Application	for	Pesticio	de:	Registration Amendment		135468		
	ALCOHOLD TO A TO		Section	1		The state of	WARRENCE BY		
Company/Product Number 2724-446 Name and Address of Applicant (Incl.)	May 30, 19	90	Section	3. Produ	oct Manager 1 Hutton/17	170	posed Classification Restricted		
and the second s									
Zoecon RF-379 Mosquito	Growth Requi	lato	r SR-20		AND THE RESERVE		The Court of		
Loccon Ki -575 Hosquito			Amendme	nt Info	rmation	La Fa			
1. Subject		-		TI TITO	manon	Date	of Letter		
Resubmission in response to Agency letter	X Final printed in response to	label o Ager	cy letter		ther (explain below)	5	5/22/90		
Material This Product Will Be Package			Section			2. Ty	pe of Container		
Child-Resistant Packaging	Unit Packaging				Soluble Packaging	X	Metal		
Yes X No	Yes XII	40	- TO THE	If "Yes,"		X	Plastic Glass		
	Unit package wgt	No. p	er container	Packag	e weight No. per container		Paper		
3. Location of Net Contents Information	4. Size(s) of Retail (Contair	ner	E TUTE			Other (Specify)		
X Label Container	1 gallon t	0 50	gallons						
o. Location of Label Directions		6. Ma	1	Label Is	Affixed To Product	1			
X On Label		X	Lithograph Paper glued		Other (Specify)				
On material accompanying prod	uct	X	Stenciled	ES					
	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	Sec.	Section						
Contact Point (Complete items d	irectly below for iden ssary, to process this			d to be		T u			
Name Comacied, if neces	ssary, to process tims	аринс	anon.	March	no removed probable				
Kelly J. Parker									
Title Regulatory Specialist				Telepho 214	one No. (Include Area Code) • • /888-8726		te Application Received		
I certify that the statements I ha complete. I acknowledge that an imprisonment or both under applic	ve made on this for my knowingly false of	ication m and or misi	all attachm	nent ma	reto are true, accurate, and y be punishable by fine or	200			
2. Signature	DI		1 45 P. C.	3. Title					
Kelley 4	f tarke	1			latory Specialist	1 13			
4. Typed Name Kelly J. Parker				5. Date	30, 1990	1 3			

Instructions

General

This form is to be used for all applications for new and amended registrations for pesticide products.

In order to process an application for new registration submitted on this form, the following material must accompany the application:

- Offer to Pay Statement (EPA Form 8570-22, -23, or -24). (If not exempted by 40 CFR 162.9-1(b).)
- 2. Confidential Statement of Formula (EPA Form 8570-4).
- 3. Five copies of draft labeling.
- 4. Three copies of any data submitted.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8 1/2 x 11 inch paper or as a mockup of the proposed label. If prepared as a mockup it should be constructed in such a way as to facilitate storage in an 8 1/2 x 11 inch file. Mockup labels significantly smaller than 8 1/2 x 11 inches should be mounted on 8 1/2 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in three copies. In order to facilitate review, each type of data submitted must be bound separately, and clearly identified on the front cover including the date submitted.

A copy of the application form and a copy of the label should be bound in each separate volume of the data.

All Data For Which Claims of Confidentiality Are Asserted Must Be Submitted, Bound Separately and Clearly Marked As Such

Specific

Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

Section I - This Section must be completed for both Registration and Amended Registration actions.

- Company/Product Number Insert your company number, if one has been assigned. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If application is for an amendment, insert the registration number of the product.
- 2. Date Fill in the appropriate date.
- Product Manager If known, fill in the name and number of the Product Manager.
- Proposed Classification Specify the proposed classification for this product.
- Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters.

An applicant Not residing in the United States must have an authorized agent residing in the United States to act for

- them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

Amendment Information

Section II - This Section must be completed for all applications submitted in connection with Amended Registration.

 Subject of Amendment - Check the appropriate block, and provide a brief explanation of the purpose(s) for the amendment, such as: "the addition of a site, pest, or crop": "to change inert ingredient"; "general label revisions of precautionary statements," etc.

Packaging and Container Information

Section III - This Section must be completed for all applications submitted in connection with New Registration.

- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
- Type of Retail Container Indicate type of container in which product will be marketed.
- Location of Net Contents Specify the net contents of all retail containers for your product.
- Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- Location of Use Directions Indicate the location of the use directions for your product.
- Monner in which lobel is affixed to product Indicate the method product labeling is attached to retail container.

Contact Point

Section IV - This Section must be completed for all Registration and Amended Registration applications.

- 1-5. Self-explanatory.
- 6. EPA Use Only.

TO PRODUCT MANAGER	17
DATE: 6-8-90	

FAST - TRACK ACTION

This action has been determined to be a fast-track action by the feps and <u>must</u> be entered in the OLTS using one of the following codes:

- 160 Application for "me-too" registration
- 170 Application for registration old chemical "Me-too" with additional use.
- 300 Amendment label revision administrative (no data required).
- 305 Amendment label revision data required does not need HED/EFED review.
- 310 Amendment added "me-too" Use no HED/EFED review needed.
- 345 Formula change no HED/EFED review required.

06/06/90

Product Name: ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

Company Name: 20ECON CORPORATION

Application No.: 135468 EPA Reg. No.: 2724-446 EPA Receipt Date: 06/06/90

Subject: Front End Screen for an Amendment

Dear Sir or Madam:

Your application for registration has been received by the Office of Pesticide Programs and has passed a preliminary screen for completeness. It will be placed in line for review to determine its acceptability. The application will be processed in chronological order of receipt.

Although the 1988 FIFRA amendments mandate FPA to review applications for expedited registration or amendments within 90 days, this turnaround time will not be met immediately due to the backlog of applications received before December 24, 1988. However, EPA is increasing human and automated resources and making necessary procedural changes in order to eliminate the backlog and to meet the 90-day response time as soon as possible.

If you have any questions, you may contact Phil Hutton, Product Manager 17, at (703)-557-2690.

Sincerely.

Team Leader

Lith Mines

Pront End Processing Staff Registration Support Branch Registration Division (H7504C)

H7504C J. WNUSQ 6-6-90

PM # -	
REG # -	2724.446
DATA ANALY	st - Rogan
DATE PROCE	SSED - 6-8-90.

THIS JACKET HAS BEEN FOUND TO BE DEPICIENT BY SIG FOR THE POLLOWING REASONS:

- 1. CURRENT ACCEPTED LABEL NOT STAMPED
- 2. CURRENT LABEL MISSING
- 3. CURRENT CSF MISSING
- 4. ACTIVE AND THERTS DO NOT = 100%
- 5. ADDITIONAL BRAND NAME (NO CODING REORD)
- 6. CURRENT INFORMATION ON FILE IS CORRECT (NO CHG REORD)
- 7. CSF/LABEL/JACKET INFO. IS INCONSISTENT
- 8. SAME REG-NR ASSIGNED TO 2 PMS OR PRODUCTS
- 9. REG-NR IS OR NEEDS TO BE CANCELLED AND/OR TRANSFERRED
- 10. IN CSF, REG-NR: IS CHICAGOS NEED NEW REG. NR. POR -
- 11. SITE/PEST INFO. MISSING FROM LABEL
- 12. RETURNED UNPROCESSED PER PM TEAM MEMBER REQUEST
- 13. NO SIGNAL WORD
- 14. NO ACTIVE/INERT PERCENTAGES ON LABEL
- 15. OTHER

PLEASE RESUBMIT THE ABOVE JACKET/S WHEN THE ABOVE DEFICIENCY/CIES

SIG ROOM 263 557 - 1176

YOUR COOPERATION IN RESOLVING THE DEPICIENCY/CIES IS GREATLY APPRECIATED.

EPA REGISTRATION NO. DATE OF ISSUANCE US ENVIRONMENTAL PROTECTION AGENCY MAY 2 2 1990 OFFICE OF PESTICIDES PROGRAMS TERM OF ISSUANCE REGISTRATION DIVISION (TS-767) WASHINGTON, DC 20460 NAME OF PESTICIDE PRODUCT NOTICE OF PESTICIDE: REGISTRATION REREGISTRATION (Under the Federal Insecticide, Fungicide, Zoecon RP-379 Mosquito and Rodenticide Act, as amended) Growth Regulator SR-20 NAME AND ADDRESS OF REGISTRANT (Include ZIP code) Zoecon Corporation A Sandoz Company 12200 Denton Drive Dallas, Texas 75234 NOTE: Changes in labeling formula differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above U.S. EPA registration number. On the basis of information furnished by the registrant, the above named pesticide is hereby Registered/Reregistered under the Federal Insecticide, Fungicide, and Rodenticide Act. A copy of the labeling accepted in connection with this Registration/Reregistration is returned herewith. Registration is in no way to be construed as an indorsement or approval of this product by this Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others. This product is conditionally registered in accordance with FIFRA section 3(c)(7)C provided that you: 1. Submit and/or cite all data required for registration/ reregistration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data. 2. Add the phrase "EPA Registration No. 2724-446" to your label before you release the product for shipment. 3. Change the front panel statement from "Because of the unique mode of action of A.L.L. Concentrate, ... " to read as follows: "Because of the unique mode of action of loecon RF-379 Mosquito Growth Regulator SR-20, ... " ATTACHMENT IS APPLICABLE

EPA Form 8570-6 (Rev. 5-76)

Der P. Z

SIGNATURE OF APPROVING OFFICIAL

PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED.

Bagly 5-22-9.

4. Submit five (5) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with PIPRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

sincerely,

Phil Hutton

Product Manager (17)

Insecticide/Rodenticide Branch Registration Division (H7505C)

Enclosure

ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

Prevents Emergence of Adult Floodwater Mosquitoes

ACTIVE IMGREDIENT:
(S)-Methoprene [Isopropy] (2E,4E,7S)11-methoxy-3,7,11-trimethyl-2,4dodecadienoate]. 20%
INERT INGREDIENTS: 80%

Contains 1.72 1b/gal (205.2 g/liter) active ingredient

CAUTION

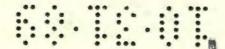
See Back Panel For Additional Cautions

Because of the unique mode of action of A.L.L.TM
Concentrate, successful use requires familiarity with
special techniques recommended for application timing
and treatment evaluation. See Guide to Product
Application or consult local Mosquito Abatement Agency.

NET CONTENTS:

with COLIMINTS in EPA Letter Dated:

MAY 22 1990



Under the rederal insecticide Fungicide, and Rodenticide Act is amended, for the pesticide registered under EPA Reg. No.

2724-446

PORTED

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Instructions for Use -- 1. SHAKE WELL BEFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution. 2. Do not mix with oil; use clean equipment. 3. Partially fill spray tank with water, then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable. 4. Spray solution should be used within 48 hours. Always agitate before spraying.

RECOMMENDED APPLICATIONS -- Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

Methods of Application -- Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

Application Rate: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

Application Sites -- Pastures: Zoecon RF-379 may be applied after each flooding without removal of grazing livestock.

Rice: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquitoes found in rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practiced. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

Mixing and Handling Instructions: 1. Add measured amount of Zoecon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water. 2. Use diluted spray solution within 48 hours of mixing. Agitate before each use.

STORAGE & DISPOSAL = Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer to recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-U.S. Pats. 3,904,662; 3,912,815 0189-A:0145E EPA Est 55947-CA-1 c 1985 Zoecon Made in U.S.A. 187

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-379 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-379, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-379 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

Zoecon RF-379 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-379 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides.

After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

Because the effect of Zoecon RF-379 is neither death nor widespread mortality immediately following pupation, the <u>number of adults which emerge is the only criterion for accurately assessing control</u>. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

CHECKLIST

Things to remember when using Zoecon RF-379 Mosquito Growth Regulator SR-20

DO the following:

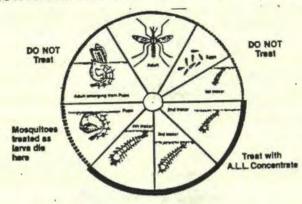
- DO treat second, third and/or fourth larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
- . DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
- DO observe pupae for several days, since death of IGR treated mosquitoes occurs
 when pupae would normally emerge as adults. (Careful observation is necessary
 since dead pupae decompose rapidly and thus are not easily seen.)
- DO monitor emerging adults at the treatment site. This absolutely requires that
 emergence traps be placed in treatment areas to capture adult mosquitoes as they
 emerge.

DO NOT do the following:

- DO NOT take dip counts of larvae attentreatment for the purpose of performance evaluation. Normal looking larvae will be present.
- DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.

 3. DO NOT think Zoecon RF-370 has failed it some adult mosquitoes are flying in
- DO NOT this Zocoo RF-378 has failed it some adult mosquitoes are flying in treated areas; they probably have flowing in from nearby untreated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
- 4. DO NOT spray again, either with Zoecon RF-379 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-379 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-379 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-379, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredients reach the water where they are released from the sand. ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100-pound batch of ALTOSAND: 99 lbs. washed, dry sand (20-45 mesh)

0.5 lbs. Zoecon RF-379, (7.5 fluid oz.)

0.5 lbs. Hisil 233 (silicon dioxide)

Small funnel

Cement mixer

1. Measure the time required for a level funnel full of sand to empty.

- Into a rotating-type mixer place 99 pounds of dry (20-45 mesh) sand. While the
 mixer is rotating, slowly pour 0.5 pound (7.5 fluid ounces) Zoecon RF-379, onto
 the sand. (If better wetting is required, Zoecon RF-379 may be diluted in up to
 an equal volume of water.)
- Mix until the sand is uniformly coated with Zoecon RF-379, (usually five to ten minutes).
- 4. Stop the mixer and add 0.5 pound of Hisil 233. Cover the mixture to reduce dust. Start the mixer and run for approximately five minutes. (The quantity of Hisil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture on the sand.)
- Compare the flow rate of the ALTOSAND mixture with that of untreated sand in step No. 1. Add more Hisil if it flows significantly slower and reduce the amount of Hisil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of eight to ten pounds of the final mixture per acre using standard granular dispersal equipment.



ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

Prevents Emergence of Adult Floodwater Mosquitoes

ACCEPTED with COMMENTS in EPA Letter Dated:

MAY 22 1990

ACTIVE INGREDIENT.

Under the Federal Insecucide Fungicide, and Rodenticide Act a

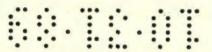
Contains 1.72 lb/gal (205.2 g/liter) active ingredient

KEEP OUT OF REACH OF CHILDREN CAUTION

See Back Panel For Additional Cautions

Because of the unique mode of action of A.L.L.TM Concentrate, successful use requires familiarity with special techniques recommended for application timing and treatment evaluation. See Guide to Product Application or consult local Mosquito Abatement Agency.

NET CONTENTS:



Chock 393

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eves or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Instructions for Use -- 1. SHAKE WELL BEFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution. 2. Do not mix with oil: use clean equipment. 3. Partially fill spray tank with water, then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable. 4. Spray solution should be used within 48 hours. Always agitate before spraying.

RECOMMENDED APPLICATIONS -- Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, Bor 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

Methods of Application -- Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

Application Rate: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

Application Sites -- Pastures: Zoecon RF-379 may be applied after each flooding without removal of grazing livestock.

Rice: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquitoes found in rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practiced. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

Mixing and Handling Instructions: 1. Add measured amount of Zoecon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water. 2. Use diluted spray solution within 48 hours of mixing. Agitate before each use

STORAGE & DISPOSAL = Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer to recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

> Zoecon Corporation A Sandoz Company 12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-U.S. Pats. 3,904,662; 3,912,815 0189-A:0145E

EPA Est 55947-CA-1 c 1985 Zoecon Made in U.S.A.

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-379 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-379, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-379 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

Zoecon RF-379 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-379 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides.

After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

Because the effect of Zoecon RF-379 is neither death nor widespread mortality immediately following pupation, the <u>number of adults which emerge is the only criterion for accurately assessing control</u>. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

CHECKLIST

Things to remember when using Zoecon RF-379 Mosquito Growth Regulator SR-20

DO the following:

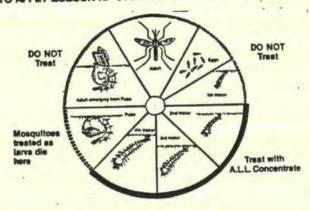
- DO treat second, third and/or fourth larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
- DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
- DO observe pupae for several days, since death of IGR treated mosquitoes occurs
 when pupae would normally emerge as adults. (Careful observation is necessary
 since dead pupae decompose rapidly and thus are not easily seen.)
- DO monitor emerging adults at the treatment site. This absolutely requires that
 emergence traps be placed in treatment areas to capture adult mosquitoes as they
 emerge.

DO NOT do the following:

- DO NOT take dip counts of larvae sites treatment for the purpose of performance evaluation. Normal looking larvae will be present.
- DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adults.
- normal adults.

 3. DO NOT think Zoecon RF-339 has failed of some adult mosquitoes are flying in treated areas. Numbers 2 and 4 of the "DO" checklist are the only methods of accurately assessing effectiveness.
- DO NOT spray again, either with Zoecon RF-379 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-379 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-379 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-379, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredients reach the water where they are released from the sand. ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100-pound batch of ALTOSAND: 99 lbs. washed, dry sand (20-45 mesh)
0.5 lbs. Zoecon RF-379, (7.5 fluid oz.)
0.5 lbs. Hisil 233 (silicon dioxide)
Small funnel
Cement mixer

- 1. Measure the time required for a level funnel full of sand to empty.
- Into a rotating-type mixer place 99 pounds of dry (20-45 mesh) sand. While the
 mixer is rotating, slowly pour 0.5 pound (7.5 fluid ounces) Zoecon RF-379, onto
 the sand. (If better wetting is required, Zoecon RF-379 may be diluted in up to
 an equal volume of water.)
- Mix until the sand is uniformly coated with Zoecon RF-379, (usually five to ten minutes).
- 4. Stop the mixer and add 0.5 pound of Hisil 233. Cover the mixture to reduce dust. Start the mixer and run for approximately five minutes. (The quantity of Hisil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture on the sand.)
- Compare the flow rate of the ALTOSAND mixture with that of untreated sand in step No. 1. Add more Hisil if it flows significantly slower and reduce the amount of Hisil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of eight to ten pounds of the final mixture per acre using standard granular dispersal equipment.

ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

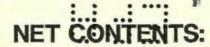
Prevents Emergence of Adult Floodwater Mosquitoes

Contains 1.72 lb/gal (205.2 g/liter) active ingredient

CAUTION

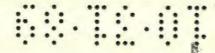
See Back Panel For Additional Cautions

Because of the unique mode of action of A.L.L. TM Concentrate, successful use requires familiarity with special techniques recommended for application timing and treatment evaluation. See Guide to Product Application or consult local Mosquito Abatement Agency.



ACCEPTED
with COMMENTS
in EPA Lotter Dated:

MAY 22 1990



Under the rederat insecticide, Fungicide, and Rodenticide Actua amended, for the pestiddaregistered under EPA Reg. No.

2724-446

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS - CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Instructions for Use -- 1. SHAKE WELL BEFORE USING. Zoecon RF-379 may separate on standing and must be thoroughly agitated prior to dilution. 2. Do not mix with oil; use clean equipment. 3. Partially fill spray tank with water, then add the recommended amount of Zoecon RF-379, agitate and complete filling. Mild agitation during application is desirable. 4. Spray solution should be used within 48 hours. Always agitate before spraying.

RECOMMENDED APPLICATIONS -- Introduction: Zoecon RF-379 must be applied to 2nd, 3rd, or 4th larval instars of floodwater mosquitoes to prevent adult emergence. Treated larvae continue normal development to the pupal stage where they die. This insect growth regulator has no effect when applied to pupae or adult mosquitoes. Zoecon RF-379 has sufficient field life to be effective at recommended rates when applied to larval stages under varying field conditions. For further information, see Guide to Product Application.

Methods of Application -- Aerial: Use the recommended amount of Zoecon RF-379 listed below in sufficient water to give complete coverage. One-half to 5 gals. of spray solution per acre is usually satisfactory. Do not apply when weather conditions favor drift from areas treated.

Ground: Determine the average spray volume used per acre by individual operators and/or specific equipment. Mix Zoecon RF-379 in the appropriate volume of water to give the rate per acre recommended below.

Application Rate: Apply 3/4 to 1 fl.oz. of Zoecon RF-379 per acre (55 to 73 ml/hectare) in water as directed.

Application Sites -- Pastures: Zoecon RF-379 may be applied after each flooding without removal of grazing livestock.

Rice: Zoecon RF-379 must be applied to 2nd, 3rd and/or 4th instar larvae of mosquitoes found in rice, usually within 4 days after flooding. Use only where multiple flooding rice culture is practiced. Zoecon RF-379 treatment may be repeated with each flooding. Do not apply after rice reaches the heading stage of growth.

Intermittently Flooded Noncrop Areas: Zoecon RF-379 may be applied as directed above when flooding may result in floodwater mosquito hatch. Typical sites include freshwater swamps and marshes, woodland pools and meadows, dredging spoil sites, drainage areas, waste treatment and settling ponds, ditches and other natural and man-made depressions. Around estuarine areas, treat high salt marsh or tidal marsh above high tide water level.

Dense vegetation or canopy areas: Apply a Zoecon RF-379 sand mixture using standard granular dispersal equipment. For detailed preparation instructions, refer to Guide to Product Application.

Mixing and Handling Instructions: 1. Add measured amount of Zoecon RF-379 to spray tank partially filled with water, mix and complete filling with recommended quantity of water. 2. Use diluted spray solution within 48 hours of mixing. Agitate before each use.

STORAGE & DISPOSAL - Store in cool place, away from other pesticides, food and feed. In case of leakage or spill, soak up with sand or another absorbent material. Triple rinse or equivalent. Then offer to recycling or reconditioning or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Zoecon Corporation
A Sandoz Company
12200 Denton Drive, Dallas, Texas 75234

EPA Reg. No. 2724-U.S. Pats. 3,904,662; 3,912,815 0189-A:0145E EPA Est 55947-CA-1 c 1985 Zoecon Made in U.S.A.

GUIDE TO PRODUCT APPLICATION

FOR THE FIRST TIME USER

Zoecon RF-379 Mosquito Growth Regulator SR-20 is the result of extensive research into the intricacies of natural biochemical and physiological development of insects. New chemical technology and biological findings were combined to develop a unique mosquito larvicide.

Zoecon RF-379, an insect growth regulator (IGR), acts by inducing morphological changes which interfere with normal development. These effects, not immediately apparent, result in the failure of adult mosquitoes to emerge from pupae. Zoecon RF-379 is not a conventional pesticide. It does not produce the nondiscriminatory rapid, directly toxic effects that are associated with traditional larvicides.

Zoecon RF-379 differs from other larvicides you may have used only in the manner and time course of its action after application.

Zoecon RF-379 is applied to second, third or fourth instar larvae using standard larviciding equipment in a manner similar to other larvicides.

After application to second, third or fourth instar larvae at recommended rates, absolutely no effects on larvae will be observed. They will continue developing normally and will pupate. Pupae will appear unaffected, but will eventually die. Adults will not emerge. Infrequently, a few adults may be seen at the water surface but they will have abnormalities preventing flight and will not survive.

Because the effect of Zoecon RF-379 is neither death nor widespread mortality immediately following pupation, the <u>number of adults which emerge is the only criterion for accurately assessing control</u>. Checks by dip counts during larval and pupal stages will give no measure of effectiveness.

Refer to the following diagram and checklist, in addition to label instructions for guidance in timing of application and performance evaluation. They will assist you in obtaining the best possible results with this unique product.

CHECKLIST

Things to remember when using Zoecon RF-379 Mosquito Growth Regulator SR-2D

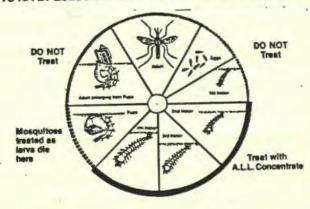
DO the following:

- DO treat second, third and/or fourth larvae, not pupae or adults. (First instar larvae are so small they are not readily detectable.)
- DO wait until treated larvae have pupated. Then collect pupae and transfer to laboratory to observe for emergence of adults.
- DO observe pupae for several days, since death of IGR treated mosquitoes occurs
 when pupae would normally emerge as adults. (Careful observation is necessary
 since dead pupae decompose rapidly and thus are not easily seen.)
- DO monitor emerging adults at the treatment site. This absolutely requires that
 emergence traps be placed in treatment areas to capture adult mosquitoes as they
 emerge.

DO NOT do the following:

- DO NOT take dip counts of Parvae after treatment for the purpose of performance evaluation. Normal looking larvae will be present.
- DO NOT take dip counts of pupae after treatment for the purpose of performance evaluation. Normal looking pupae will be seen but these will not develop into normal adultes
- DO NOT think Zoecon RF-379 has failed it some adult mosquitoes are flying in treated areas, they probably have flowe in from nearby untreated areas. Numbers 2 and 4 of the "DO" cherklist are the only methods of accurately assessing effectiveness.
- 4. DO NOT spray again, either with Zoecon RF-379 or a conventional insecticide, because larvae or pupae are present after application. This is normal. The effectiveness of Zoecon RF-379 can only be measured by lack of adult emergence.

LIFE CYCLE OF MOSQUITO WHEN TO APPLY ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20



Preparation of ALTOSAND Granular Formulation

An "On-Site" Method of Preparing a Granular Formulation of Zoecon RF-379 Mosquito Growth Regulator SR-20

INTRODUCTION

A method of application of Zoecon RF-379, using sand as a carrier, has been developed for use in floodwater mosquito breeding areas with dense vegetation or canopy. The characteristics of ALTOSAND provide excellent foliage penetration, insuring that the active ingredients reach the water where they are released from the sand. ALTOSAND will prevent the emergence of species of the floodwater mosquito complex when applied to second, third or fourth larval instars at a rate of eight to ten pounds per acre.

PREPARATION INSTRUCTIONS

The following materials are required to prepare a 100-pound batch of ALTOSAND: 99 lbs. washed, dry sand (20-45 mesh)
0.5 lbs. Zoecon RF-379, (7.5 fluid oz.)
0.5 lbs. Hisil 233 (silicon dioxide)
Small funnel
Cement mixer

- 1. Measure the time required for a level funnel full of sand to empty.
- Into a rotating-type mixer place 99 pounds of dry (20-45 mesh) sand. While the
 mixer is rotating, slowly pour 0.5 pound (7.5 fluid ounces) Zoecon RF-379, onto
 the sand. (If better wetting is required, Zoecon RF-379 may be diluted in up to
 an equal volume of water.)
- Mix until the sand is uniformly coated with Zoecon RF-379, (usually five to ten minutes).
- 4. Stop the mixer and add 0.5 pound of Hisil 233. Cover the mixture to reduce dust. Start the mixer and run for approximately five minutes. (The quantity of Hisil 233 necessary to achieve a dry, free-flowing mixture will vary depending on the particle size distribution and moisture on the sand.)
- 5. Compare the flow rate of the ALTOSAND mixture with that of untreated sand in step No. 1. Add more Hisil if it flows significantly slower and reduce the amount of Hisil in subsequent batches if the mixture flows at the same or a faster rate and is excessively dusty.

APPLICATION RATE AND METHODS

Apply at a rate of eight to ten pounds of the final mixture per acre using standard granular dispersal equipment.

Please provide the requested information for the following checked items:

- Submit the product specific product chemistry and the data matrix for your product. Your product is not sufficiently similar to the product you referenced.
- 2. On the Confidential Statement of Formula (CSF) please provide the following:
 - [] a) Provide pH of product or pH at a specified water dilution.

() b) density of product

[] c) flash point of product

*() d) flash point of product with the propellent. OR item # 7 on this page.

[] e) flame extension of product including flashbacks if noted

- [] f) Provide the upper and lower Certified Limits based on the pure active ingredients rather than the technical or concentrate.

 Note that the lower limit of the active must be the same as the label claim in pure active form.
- [] g) Provide upper and lower Certified Limits of the individually added inerts.

[] h)

[] i)

- 3. [] Based on the current CSF dated vour product will not meet the label claim for the active ingredient. Please revise the label or the CSF so the information agrees.
- 4. [] Please provide the chemical identity of all components, MSDS and CAS #s of: (two 1)

2)

3)

The supplier may contact us directly referencing your file symbol/EPA Reg. # in their response.

For dyes, color index and CAS *s for all components are required. For perfumes and flavoring all chemical components by CAS *s and * in the mixture must be identified. Certify that flavors are of non-food type.

- Please update the label Storage and Disposal Statement per PR 83-3 or PR-84-1.
- 6. [] Add a footnote to the label ingredient statement indicating:
 Ontains aromatic petroleum distillates, xylene, xylene range aromatic solvent
- 7. [] Add the heading PHYSICAL OR CHEMICAL HAZARDS to the label and the appropriate statement. See 40 CFR 156.10
- 8. [] Since your data matrix does not give a dielectrical breakdown voltage, you must add the following to the use directions:

 Do not use this product in or on electrical equipment due to the possibility of shock hazard.
- 9. [] Solvent used is not considered an active ingredient so either report it under inert ingredients on the label or provide the registration no. for the source product and justify its insecticidal properties.

(see back page)

CHEMISTRY CHECKLIST CONT'D

9. Data Matrix Requirements

[]	a)	Statement of Composition - a complete description of the manufacturing/
		formulation process. Describe equipment used, mixing time, temperature etc

- Discussion of Formation of [Unintentional] Ingredients a brief description of impurities formed during the manufacturing/formulation process, in packaging, or during storage. If you do not expect any impurities during these stages, please so state.
- Certification of Limits upper and lower limits of each active and individually added inert component. The lower limit for the actives, must be the same as the label claim in pure active ingredient form.
- Analytical Method provide the methods used to analyze for the active ingredients or a full reference for a published method or MRID #.
- Color in common terms.
- Physical State e.g. solid, liquid, pressurized liquid, etc.
- Odor in common terms.
- Density e.g. lbs/gallon for liquids or lbs/cu. ft. for solids. h)
 - i) pH provide pH of product or pH of a specified water dilution.
- j) Oxidizing or Reducing - note these characteristics if any.
- Flammability flash point/flame extension.

 Explodability note these characteristics if any.
- Storage Stability the formulated product must be analyzed for its active ingredient at time zero and during a year of storage. The storage should be in warehouse conditions of temperature and humidity and stored in similar containers you will be using in the trade. Note: For the Storage Stability study you cannot reference the concentrate you are using to formulate your product.
- Viscosity can be expressed in centipoise or centistokes. [] n)
- Miscibility note these characteristics if product is an emulsifiable liquid and mixed with oil.
- Corrosion Characteristics this information can be noted during [] p) the storage stability study.
- Dielectric Breakdown Voltage for products used near electrical equipment.

The Kegistrant has stated EPA Keg No 2724-393 as a me too product since this product is almost Sundar do EPA Reg NO 27724-343. All the above Chemistry Data Matrix Requirements are not needed. This reference is acceptable.

Reg. !	
140	

CHEMISTRY CHECKLIST CONT'D

9. Data Matrix Requir	ements
-----------------------	--------

- [] a) Statement of Composition a complete description of the manufacturing/ formulation process. Describe equipment used, mixing time, temperature etc.
- [] b) Discussion of Formation of [Unintentional] Ingredients a brief description of impurities formed during the manufacturing/formulation process, in packaging, or during storage. If you do not expect any impurities during these stages, please so state.
- [] c) Certification of Limits upper and lower limits of each active and individually added inert component. The lower limit for the actives, must be the same as the label claim in pure active ingredient form.
- [] d) Analytical Method provide the methods used to analyze for the active ingredients or a full reference for a published method or MRID #.
- [] e) Color in common terms.
- [] f) Physical State e.g. solid, liquid, pressurized liquid, etc.
- [] g) Odor in common terms.
- [] h) Density e.g. lbs/gallon for liquids or lbs/cu. ft. for solids.
- [] i) pH provide pH of product or pH of a specified water dilution.
- [] j) Oxidizing or Reducing note these characteristics if any.
- * [] k) Flammability flash point/flame extension.
 - [] 1) Explodability note these characteristics if any.
 - [] m) Storage Stability the formulated product must be analyzed for its active ingredient at time zero and during a year of storage. The storage should be in warehouse conditions of temperature and humidity and stored in similar containers you will be using in the trade.

 Note: For the Storage Stability study you cannot reference the concentrate you are using to formulate your product.
 - [] n) Viscosity can be expressed in centipoise or centistokes.
 - [] o) Miscibility note these characteristics if product is an emulsifiable liquid and mixed with oil.
 - [] p) Corrosion Characteristics this information can be noted during the storage stability study.
 - [] q) Dielectric Breakdown Voltage for products used near electrical equipment.

Please read instructions and notice on	reverse before comp	oleting form.	. Form Approve	ed. OMB No. 2070-0		Approval expires 6-30-90
	United S	States Environmental ice of Pesticide Prog	Protection Agency		1000	Identifier Number
The state of the s	- 14 A - 2	Washington, DC	20460			32862
SEPA	EXPED: Application	ITE	Regi	stration		
	Application	tor Pesticic	ie: Ame	admont	1100	
			Ame	ndment	1	
	lo Date	Section	Desduct Manna		la De	anned Clandification
1. Company/Product Number	2. Date		3. Product Manage	2000.2	4. Pro	posed Classification Restric-
2724- UUA	10/24/89	130 / 110	Phil Hutto	n (1/)	X	General ted
5. Name and Address of Applicant (Inc.	lude ZIP Code)					
Zoecon Corporation						
A Sandoz Company						
12200 Denton Drive						
Dallas, Texas 75234						
Check if this is a new address	- Witte		-17			to Principal Co
6. Product Name		2				
Zoecon RF-379 Mosquito				Talance A	-1-1	
	Section	on II - Amendme	ent Information	The state of	10-1-	×11 - W
1. Subject	Final printed	lahel			Date	of Letter
Resubmission in response to Agency letter	in response t	label o Agency letter	Other (explain	in below) *		
Formula is same as ALT	rosid Larvici	de Concentra	te, EPA Reg.	No. 2/24-39	3	
Label is same as ALTOS	SID Liquid La	rvicide, EPA	Reg. No. 27	24-392		
		-	We see the see that the see tha		-	
		Section	III	- 10	10 Tu	pe of Container
Material This Product Will Be Packa Child-Resistant Packaging	Ged In Unit Packaging		Water-Soluble Pac	kanina	-	
Child-resistant Fackaging					X	Metal
	Yes X	No	Yes X	No	Λ.	Plastic
Yes X No		***			-	Glass
Children State of the	Unit package wgt	No. per container	Package weight	No. per container	-	Paper
3. Location of Net Contents Information	n 4 Size/e) of Betail	Container				Other (Specify)
		o 50 gallons			1	
X Label Container 5. Location of Label Directions	1 garron c		Label Is Affixed To	Product		The transfer
5. Location of Laber Directions						
		X Lithograph	Oth	er (Specify)		
X On Label		X Paper glued				January II
On material accompanying proc	luct	X Stenciled				<u></u>
		Section	IV			****
Contact Point (Complete items of the contac	lirectly below for iden	itification of individua	al to be			· ·
	ssary, to process this	application).				
Name						
Kelly J. Parker						
			12		1	ii.
Regulatory Specialist			THE RESERVE OF THE PARTY OF THE	clude Area Code		ate Application Received Stamped)
Regulatory Specialist			214/888-87	26		Statifiped)
Leadly that the statements I have		fication	ante discoste ace de		150	
I certify that the statements I have made on this form and all attachments thereto are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or						
imprisonment or both under applicable law.						
2. Signature	A STATE	The state of	3. Title	4,20 1		
Kall OT)		Regulatory		100	14 - 14XI
Delley of t	arker		Specialist		169	
4. Typed Name	LE WINDLE		5. Date Signed		144	
Volly 1 Danker			10/24/90			
Kelly J. Parker			10/24/89			

Paperwork Reduction Act Notice and Instructions

Paperwork Reduction Act Notice

Public reporting burden for this collection of information is estimated to average of 0.85 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

Instructions

General

This form is to be used for all applications for new and amended registrations for pesticide products.

In order to process an application for new registration submitted on this form, the following material must accompany the application:

- Offer to Pay Statement (EPA Form 8570-22, -23, or -24). (If not exempted by 40 CFR 162.9-1(b).)
- 2. Confidential Statement of Formula (EPA Form 8570-4).
- 3. Five copies of draft labeling.
- 4. Three copies of any data submitted.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8 1/2 x 11 inch paper or as a mockup of the proposed label. If prepared as a mockup it should be constructed in such a way as to facilitate storage in an 8 1/2 x 11 inch file. Mockup labels significantly smaller than 8 1/2 x 11 inches should be mounted on 8 1/2 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

Specific

Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, Section I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

Section I - This Section must be completed for both Registration and Amended Registration actions.

- Company/Product Number Insert your company number, if one has been assigned. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If application is for an amendment, insert the registration number of the product.
- 2. Date Fill in the appropriate date.
- Product Manager of known, fill in the name and number of the Product Manager.
- Proposed Classification Specify the proposed classification for this product.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters.

- An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

Amendment Information

Section II - This Section must be completed for all applications submitted in connection with Amended Registration.

 Subject of Amendment - Check the appropriate block, and provide a brief explanation of the purpose(s) for the amendment, such as: "the addition of a site, pest, or crop"; "to change inert ingredient"; "general label revisions of precautionary statements," etc.

Packaging and Container Information

Section III - This Section must be completed for all applications submitted in connection with New Registration.

- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
- Type of Retail Container Indicate type of container in which product will be marketed.
- Location of Net Contents Specify the net contents of all retail containers for your product.
- Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- Location of Use Directions Indicate the location of the use directions for your product.
- Manner in which label is affixed to product Indicate the method product labeling is attached to retail container.

Contact Point

Section IV - This Section must be completed for all Registration and Amended Registration applications.

- 1-5. Self-explanatory.
- 6. EPA Use Only.

	Reference Number
	Input Date
	CODING FORM FOR APPLICATIONS FOR REGISTRATION/AMENDMENTS
	File Symbol/Reg. No. 2724-UUA PM 17 8 Action Code
	10 Descriptor (Amend/Resubmisions only)
	5 Intrastate Call-in / (Y) Yes 15 Child-resistant / (C) Certification
	Packaging [N) No Packaging [S) Service Person
	20 Registration Type:
	(1) Conditional (2) Unconditional
	25 Proposed Classification: 30 Final Classification: (N) Not-Applicable
	(R) Restricted (R) Restricted
	(G) General (N) Not Classified
	35 Date on Application: 04 EPA Received Date: 40 Date Received by PM
	10 214 819 /10 311 819
	MO DAY YR MO DAY YR MO DAY YR
	80 Method of Support:
	(1) Cite-All (6) Owner Submission
	/ (4) Not Applicable / (7) Total Submission
	/_/ (5) Not Submitted /_/ (8) Selective Method
,	DATE DUE DATE RESPONSE RESPONSE Reviewers Requested: SENT DATE RETURNED CODE DATE
,	<u>RD</u>
	PM
	PL
	CH
	EF E
	108 Status:
	115 FINAL Response 120 Response
	ACTION Code MD DAY YR
	75-DAY RESPONSE DUE DATE: / /(Y) Yes / /(N) No

⊕EPA

United States Environmental Protection Agency Washington, DC 20460

Certification with Respect to Citation of Data

Form Approved OMB No. 2070-0060 Approval expires 9-30-90

Applicant's Name and Address

Zoecon Corporation
A Sandoz Company
12200 Denton Drive
Dallas, Texas 75234

EPA File Symbol/Registration Number

2724- UVA

Product Name

Zoecon RF-379 Mosquito Growth Regulator SR-20

Date of Application

10/24/89

- 1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product or of any other product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application.
- 2. I certify that, for each study cited in support of this application for registration that is an exclusive use study, I am the original data submitter, or have obtained the written permission of the original data submitter to cite that study.
- 3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study:

I am the original data submitter; or I have obtained the written permission of the original data submitter to cite that study; or

I have notified in writing the companies who have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act; and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: (Check one)

M	All companies listed on the Pesticide Data Submitters List for all
	active ingredients contained in my product (cite-all method or cite-all
	option under Selective Method). (Also sign the General Offer to Pay
	Statement below.)
	Those companies who have submitted the studies which I have sited

Those companies who have submitted the studies which I have cited (Selective method).

Kelly Farker	Name and Title Kelly J. Parker Regulatory Specialist	Date 10/24/89	

General Offer to Pay: I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required by FIFRA sec. 3(c)(1)(D) and 3(c)(2)(D).

Signature	Name and Title	Date
Kelly & Parker	Kelly J. Parker Regulatory Specialist	10/24/89
EPA Form 8570-29 (7-86)		199

United States Environmental Protection Agency Washington, DC 20460

Form Approved OMB No. 2070-0060 **≎EPA** Certification with Respect to Approval expires 9-30-90 Citation of Data Applicant's Name and Address EPA File Symbol/Registration Number 2724-110A Zoecon Corporation A Sandoz Company **Product Name** 12200 Denton Drive Zoecon RF-379 Mosquito Growth Regulator SR-20 Dallas, Texas 75234 Date of Application 10/24/89 1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product or of any other product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application. 2. I certify that, for each study cited in support of this application for registration that is an exclusive use study, I am the original data submitter, or have obtained the written permission of the original data submitter to cite that study. 3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study: I am the original data submitter; or I have obtained the written permission of the original data submitter to cite that study; or I have notified in writing the companies who have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act; and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due,

> if any. The companies I have notified are: (Check one) All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method). (Also sign the General Offer to Pay Statement below.)

Those companies who have submitted the studies which I have cited (Selective method).

Name and Title Signature Kelly J. Parker Regulatory Specialist

General Offer to Pay: I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent requir by FIFRA sec. 3(c)(1)(D) and 3(c)(2)(D).

Signature	Name and Title	Date
Kelley & Parker	Kelly J. Parker Regulatory Specialist	10/24/89

11/16/89

Product Name: ZOECON RF-379 MOSQUITO GROWTH REGULATOR SR-20

Company Name: ZOECON CORPORATION

Application No.: 132862 -EPA File Symbol: 2724-uuA EPA Receipt Date: 10/31/89

Subject: Front End Screen for a 'Me-Too' Registration

Dear Sir or Madam:

Your application for registration has been received by the Office of Pesticide Programs and has passed a preliminary screen for completeness. It will be placed in line for review to determine its acceptability. The application will be processed in chronological order of receipt.

Although the 1988 PIFRA amendments mandate EPA to review applications for expedited registration or amendments within 90 days, this turnaround time will not be met immediately due to the backlog of applications received before December 24, 1988. However EPA is increasing human and automated resources and making necessary procedural changes in order to eliminate the backlog and to meet the 90-day response time as soon as possible.

If you have any questions, you may contact Phil Hutton, Product Manager 17 at (703) -557-2690.

Sincerely

Team Leader

Front End Processing Staff Registration Support Branch Registration Division (H7504C)

H7504C F. Wrice 11-16-89



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

November 21, 1989

OFFICE OF PESTICIDES AND TOXIC SUBSTANCES

PRODUCT NAME: COMPANY NAME:

ZOE RF-379 MOSQUITO GROWTH REGULATOR SR-20

ZOECON CORPORATION

APPLICATION NO: EPA REG. NO:

132862 2724-UUA

EPA RECEIPT DATE:

10/31/89

SUBJECT:

"Me-too" Registration

TO:

P. Hutton, 17

This application has completed the Front End Review.

Sincerely,

Front End Processing Staff

ZOECON CORPORATION

A SANDOZ Company

12005 Ford Rd. • Suite 800, L B 44
Dallas, Texas 75234 • Phone (214) 243-2321

To: Kelly J. Parker
Zoecon Corporation
A Sandoz Company
12200 Denton Drive
Dallas, Texas 75234

ZOECON CORPORATION

A SANDOZ Company

12005 Ford Rd. • Suite 800, L B 44

Dallas, Texas 75234 • Phone (214) 243-2321

To:

Kelly J. Parker Zoecon Corporation A Sandoz Company 12200 Denton Drive Dallas, Texas 75234

Zoecon Corporation

A SANDOZ Company

12005 Ford Road, Suite 800, LB 44, Dallas, Texas 75234-7296 (214) 243-2321

October 24, 1989

Mr. Phil Hutton
Product Manager (17)
Insecticide-Rodenticide Branch (H7505C)
Office of Pesticide Programs
Document Processing Desk (APPL)
U.S. Environmental Protection Agency
Crystal Mall, Bldg. 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

RE: Zoecon RF-379 Mosquito Growth Regulator SR-20 Application for New Registration Cite-All Method/Expedited Review

Dear Mr. Hutton:

The proposed product is identical to existing registered products. It is my understanding that under the expedited registration amendment to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA 1988) this application for a "similar" product will be granted (or denied) within 90 days.

The Zoecon RF-379 product formula is exactly the same as for ALTOSID Larvicide Concentrate, EPA Reg. No. 2724-393. The label is the same as that on file for ALTOSID Liquid Larvicide, EPA Reg. No. 2724-392.

As noted above, the product formula for Zoecon RF-379 is equivalent to the ALTOSID Larvicide Concentrate, a manufacturing-use product that is diluted to formulate the Liquid Larvicide product. The Concentrate contains 20% (S)-methoprene, Liquid Larvicide contains 5% (S)-methoprene.

We would like to provide the 20% (S)-methoprene product with an end use label. This end-use product will be used in the same manner and at the same use-rate as the current 5% Liquid Larvicide product.

Since Zoecon RF-379 is four times as concentrated as the Liquid Larricide, four times less is required to achieve the same application rate. The proposed label is the same as the label approved by the Agency for the Liquid Larvicide on July 26, 1985 with the appropriate adjustments in the amount of concentrate required, as just described.

Zoecon RF-379 contains only food-cleared inerts, and no inerts of concern. Also, as noted above, the formula is essentially the same, and the application rate is exactly the same as for the Liquid Larvicide. Therefore, the exemptions from the requirement of a tolerance granted in connection with the registration of ALTOSID Liquid Larvicide are applicable to the proposed registration.

Best regards,

Kelly of Parker Kelly J. Parker

Regulatory Specialist

800/527-0512

KJP:sw Enclosures

